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## ACRONYMS

|        |   |  |
|--------|---|--|
| AIDS   | - | Acquired Immuno-Deficiency Syndrome                |
| AIS    | - | AIDS International Society                         |
| AITRP  | - | AIDS International Training and Research Programme |
| ANC    | - |  |
| ARVD   | - | Anti Retroviral Drugs                              |
| BMC    | - | Bushenyi Medical Centre                            |
| CRWU   | - | Case Western Reserve University                    |
| DOT    | - | Directly Observed Treatment                        |
| HCWS   | - |  |
| HAART  | - | Highly Active Antiretroviral Therapy               |
| HIV    | - | Human Immune Virus                                 |
| HTLC   | - |  |
| ICD    | - |  |
| ISS    | - | Immune Suppression Syndrome                        |
| LCD    | - | Liquid Crystal Display                             |
| MIT    | - |  |
| MU IPH | - | Makerere University Institute of Public Health     |
| MRC    | - | Medical Research Council                           |
| MOH    | - | Ministry of Health                                 |
| NGO    | - | Non Government Organization                        |
| NURRU  | - | Network Of Ugandan Researchers and Research Users  |
| OI     | - | Opportunistic Infection                            |
| RDA    | - |  |
| RNA    | - |  |
| RR     | - |  |
| SAS-M  | - | Modified self report Measure of social adjustment  |
| TASO   | - | The AIDS Support Organisation                      |
| TB     | - | Tuberculosis                                       |
| TLC    | - | Total Lymphocyte                                   |
| USA    | - | United States of America                           |
| USHS   | - | Uganda Society for Health Scientists               |
| UVRI   | - | Uganda Virus and Research Institute                |
| VCT    | - | Voluntary Counselling and Training                 |
| WHO    | - | World Health Organisation                          |

## INTRODUCTION

Uganda Society for Health Scientists (USHS) is a research Society, registered as an NGO in 1999 with a mission to advance knowledge and seek scientific discoveries that will lead to the improved health of Ugandans.

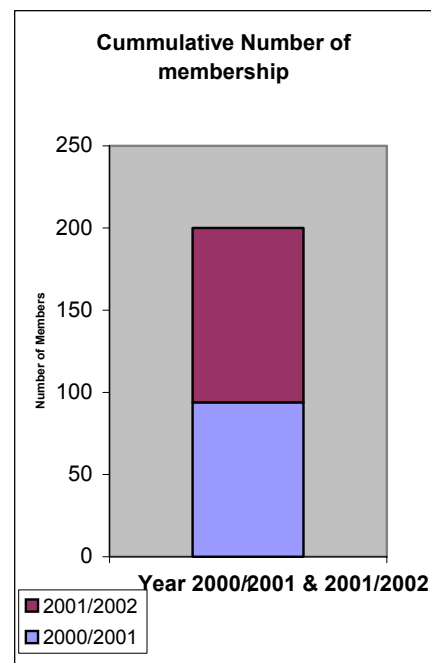
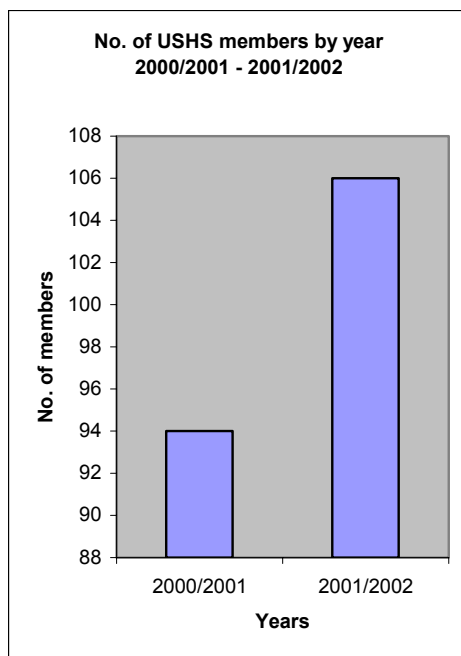
The Society aims to establish a network of motivated and committed health researchers in Uganda, promote collaboration among them as well as collaboration with foreign scientists whose interest bear relevance to the objectives of the Society.

## SOCIETY ACTIVITIES AND ACHIEVEMENTS DURING THE YEAR 2001/2002:

### I. MEMBERSHIP

Membership to USHS is open to all individuals from health and non-health professionals involved in health research.

During the year 2001/2002 membership increased by 53% . In total there are 156 full members and 44 associate members making a total of 200 to date.



Members participated in the Society activities through various activities including research training, participation in in-country and international scientific meetings and regular scientific discussions.

## **II. 5 YEAR STRATEGIC PLAN**

The Executive Board developed a 5-year strategic plan covering the period 2002/07. The plan covers strategies and activities that USHS will undertake to achieve its objectives. The strategic objectives to be achieved include:

- To publicize and popularize the Society and its activities among members, potential members and stakeholders of research in districts, central government and other organizations. The Society plans to;
  - To increase the membership of the Society by 75% in 5 years time.
  - To facilitate communication and networking between members of the Society.
  - To facilitate the completion of research studies by at least 80% in 5 years time.
  - To disseminate at least 10% of the major research findings of the Society to its members.
  - To increase the number of research studies of the Society and its members that is translated into policy and health action by 10%.
  - To increase funds locally generated such that by the end of the 5-year period, the Society is 50% financially self-reliant (sustainable).

Through these strategic objectives a network of motivated and committed health researchers will be developed by the year 2007.

## **III. DEVELOPMENTAL RESEARCH GRANTS**

Developmental research grants

USHS holds annual competitions for small developmental research grants. The goal of these grants is to promote independent research for young and upcoming researchers under the mentorship of senior researchers.

Any member is eligible to submit an application. The applications follow a traditional format with specific aims, background, research plan, analysis and budget and are reviewed by the scientific committee of the society.

The Society receives concept papers which are developed into full proposals. Through a competitive review process, the applicants are finally awarded funds provided by the AIDS International Training and Research Programme at Case Western Reserve University directed by Dr. Chris Whalen.

During the period October 1999 – September 2000 the Society received 27 concept papers 17 of which were developed into full proposals. Out of these, six developmental grants were awarded to the following:

1. **Dr. Jackson Amone**- study title “A comparative Study of Condom Use Among the Urban and Rural Youth in Gulu District”. *Study completed*
2. **Dr. Fred Nuwaha & Dr. Donna Kabatesi** – study title “Factors Influencing Acceptability of HIV Testing in Rural Areas of Uganda.” *Study completed.*
3. **Dr. Edward Semafumu and Mr. Simon Kasasa** – study title “Prevalence of severe pain in HIV infected patients attending new Mulago, ISS Clinic and TASO. *Study completed*
4. **Dr. Cecily Banura** – study title “Cancer and HIV-1 infection in Mulago Hospital Complex: a pilot Study. *Study on-going*
5. **Dr. Elioda Tumwesigye** – study title “Predictors of Genital Infection with High Risk Human Papilloma Virus sub-types 16 and 18: A population based study in rural Uganda. *Study on-going*
6. **Mr. Enosh Mwesigwa** – study title “Antiretroviral Drug utilization study: Emerging issues critical to the quality improvement of the drug use process in Uganda.” *Study on going*

Abstracts of completed studies:

1. “A comparative Study of Condom Use Among the Urban and Rural Youth in Gulu District” by **Dr. Jackson Amone**-

**Objectives:** The objective of the study was to assess the sexual behaviors, knowledge, attitude and use of condoms among adolescents living in the Internally Displaced People (IDP) camps and urban areas in Gulu District in order to plan for better methods of preventing HIV/AIDS spread.

**Method:** The study was a comparative cross sectional study conducted in Gulu district. Female and male adolescents aged 15 - 19 years who consented or assented to participate in the study had a questionnaire administered.

**Results:** The study found that sexual activity was high among adolescents in camps and urban areas. Table 1 summarizes some of the findings.

**Table 1:**

|                   | <b>Camps</b> | <b>Urban</b> |
|-------------------|--------------|--------------|
| Male              | 61%          | 54%          |
| Primary Education | 84%          | 71%          |
| Ever had sex      | 50%          | 44%          |
| Age at first sex  | 13.6 years   | 14.3 years   |

|                    |       |       |
|--------------------|-------|-------|
| History of rape    | 16.3% | 6.1%  |
| Sex to get a child | 49%   | 14%   |
| Use condoms        | 19.8% | 45.2% |

**Conclusion:** Sexual activity was high among youths in Gulu town and IDP camps in Gulu District. There was a high level of knowledge of condom use among adolescents in both areas but use was higher in urban areas, probably due to better availability. Surprisingly, history of rape was high in camps.

2. "Prevalence of severe pain in HIV infected patients attending new Mulago, ISS Clinic and TASO by **Dr. Edward Semafumu and Mr. Simon Kasasa** .

**Objectives:**

- (i) To estimate the prevalence of pain among HIV/AIDS patients attending the AIDS Clinics of Mulago Hospital and TASO Mulago.
- (ii) To describe the different types of pain patients present with anatomically and path physiologically.
- (iii) To assess the effect of severe pain on quality of life in patients with HIV/AIDS attending the two clinics.

**Method:** A cross sectional study was carried on HIV/AIDS patients of 18 years and above who freely reported pain as one of their presenting complaint.

Between November 2000 – February 2001 a total of 1,200 HIV seropositive patients were screened. Of the 1,200 patients, 256 (21%) freely reported pain as one of their presenting complaints and 206 (97%) of those who presented with pain were recruited in the study. Of the 206 who presented with pain, 115 (58.5%) reported severe pain. Most patients 117 (56.8%) had somatic pain, 49 (23.8%) had visceral pain and 40 (19.4%) had neuropathic pain. The more severe the pain was, the worse was the interference with quality of life, p-value: ,0.0001.

**Results:** The study found out that between November 2000 – February 2001 a total of 1,200 seropositive patients were screened. Of the 1,200 patients, 256 (21%) freely reported pain as one of their presenting complaints and 206 (97%) of those who presented with pain were recruited in the study. Of the 206 who presented with pain, 115 (58.5%) reported severe pain. Most patients 117 (56.8%) had somatic pain, 49 (23.8%) had visceral pain and 40 (19.4%) had neuropathic pain. The majority of patients 94 (45.6%) had WHO clinical stage III of HIV. The more severe the pain was, the worse was the interference with quality of life, p-value: 0.0001.

**Conclusion:**

- (i) The prevalence of pain was estimated at 21% of all HIV seropositive patients. The prevalence of severe pain among HIV/AIDS patients who presented with pain in ISS Clinic and TASO Mulago Clinic was 58.5%.
- (ii) Somatic pain was the most common form of pain presentation. There was no significant statistical difference between severity of pain and nature of pain.
- (iii) There is severe interference with quality of life in patients who have severe pain with HIV/AIDS with mean rating interference p-value <0.0001.
- (iv) The majority of patients with HIV/AIDS (67%) were not on any pain medication.

3. "Factors Influencing Acceptability of HIV Testing in Rural Areas of Uganda." by **Dr. Fred Nuwaha & Dr. Donna Kabatesi**

**Objective:** To understand the factors influencing VCT with a view of increasing the proportion of people who undertake VCT.

**Methods:** Individual interviews with a cluster random sample of 219 people and four focus group discussions were held in Bushenyi district of south-western Uganda. The interview schedule was based on the Attitudes Social influence self-Efficacy (ASE) Model. Attitudinal beliefs, self-efficacy expectations, and social influences that are probably associated with VCT for HIV were elicited. The proportion of people who had ever undertaken VCT for HIV was also determined.

**Results:** Thirty eight (17%) of the 219 people interviewed had ever undergone VCT. The factors influencing VCT for HIV were positive consequences of a negative test, negative consequences of a positive test, influences from a sexual partner, cost of VCT, physical accessibility of VCT, awareness, risk of HIV infection, need for linking VCT with care (especially availability of anti-retroviral drugs) and perceived quality of care of VCT services.

**Conclusions:** Increased mobilization and access for VCT, reducing costs of VCT, linking of VCT with care, and emphasizing the positive consequences of VCT as well as providing high quality VCT services may increase the number of people seeking VCT.

On-going studies:

**4. Dr. Cecily Banura** – study title "Is cancer of the lung associated with HIV 1 infection in Uganda".

**Objectives:** The objective of the study is

- (i) to establish a hospital-based cancer registry and specimen repository for selected HIV related malignancies in Mulago hospital Complex as a resource for future studies.
- (ii) to assess response, prognostic factors and survival of patients in relation to different treatment modalities.

**Methods:** This is a prospective study, adult patients with histologically confirmed Kaposi's sarcoma (KS), Non-Hodgkin's lymphomas (NHL), Burkitt's lymphoma (BL) and cervical cancer (Ca Cx) and who consent to have their blood taken for HIV serology after pre-test counselling and other specimens stored are eligible.

A total of 195 subjects will be recruited and followed-up in the 12 months of the study. A total of 150 patients with KS, 15 patients with NHL, 5 patients with BL and 25 patients with CaCx will be recruited. Data collection commenced February 1, 2001 after obtaining necessary approvals from participating clinical facilities and Institutional Review Boards.

2. "Predictors of High Risk Human Papilloma (HPV Types 16 and 18: A Population Based Survey in Rural Uganda " by **Hon. Dr. Elioda Tumwesigye**

**Objectives:** The objectives of the study are; to evaluate the operational feasibility of HPV testing in primary screening for cervical cancer in resource poor settings and to assess the utility of self-collected samples for the detection of HPV DNA in outreach settings where a screening speculum exam is not feasible. The study will also evaluate potential HPV vaccine acceptability among young adult women.

**Methods:** This study is a cross-sectional study implemented in some rural communities of Bushenyi District. Cluster sampling will be used to select participants from each village. One female aged between 15 and 49 will be randomly selected from the household and enrolled into the study after obtaining consent. A total of 200 women will be recruited in the study. Each woman will be assisted by a trained midwife to self collect 3 vaginal swabs (one for HPV, another for future PCR testing for STDs and the third for onsite saline testing for trichomoniasis). Onsite standard treatment will be offered to individuals with STDs.

3. "Antiretroviral Drug utilization study: Emerging issues critical to the quality improvement of the drug use process in Uganda." By **Mr. Enosh Mwesigwa**.

**Objectives:** The objectives of the study are;

- (i) To contribute towards the overall improvement of the management, delivery and quality of health care in Uganda, with special emphasis on people with HIV/AIDS.
- (ii) To carry out utilization study of ARVDs in eight reference health institutions in Uganda so as to identify the use patterns, their determinants and their implications for policy.
- (iii) To study prescribing patterns, i.e. number of items per consultation, prescribing time, inter/intra-institutional variations and availability of prescribing information.
- (iv) To investigate dispensing practices, i.e. adequacy of instructions to patients, dispensing time and dispenser (qualified/not qualified)
- (v) To establish whether there is adequate patient follow-up and monitoring, i.e CD4+ cell counts and monitoring of adverse effects, resistance and intolerance

**Method:** A hospital based cross-sectional study based in 8 reference health institutions, i.e Mulago, Nsambya, Rubaga , Mengo, Joint Clinical research Centre, Mbale regional hospital, Mbarara university Hospital and the Mildmay International Centre. Multiple methods, including a standard WHO/INRUD protocol will be used to collect data.

Grants in year 2000/2001, 20 members submitted proposals and 5 were awarded grants. These grants were given to the following:

1. **Dr. Eugene Kinyanda & Dr. Ssegane Musisi** – study title “ Investigation of the Psychosocial functioning of HIV-1 Seropositive adolescents in Kampala, Uganda,” *completed study*
2. **Dr. Caroline Nakkazi** – study title “Adherence to Infection Control Guidelines: A Study of Knowledge and Practices of Universal Precautions Among Health Care Workers of Wakiso District in Relation to HIV/AIDS”. *Completed study*
3. **Dr. Barigye Henry** – study title “The Use of Changes in Total Lymphocyte Counts to Predict Changes in CD4+ T Lymphocytes among HIV Infected Patients on HAART “. *on-going study*
4. **Dr. Cecily Banura** – study title “Is cancer of the lung associated with HIV 1 infection in Uganda”. *On-going study.*
5. **Mr. Abdelrahman Lubowa** – study title “Micro-Nutrient intake and levels in HIV/AIDS infected Adults, the case of Vitamin A,E, Zinc and Selenium”. “. *completed study*

Although some grants were awarded in 2000/2001, implementation of some of the studies did not start until 2002.

Abstract of completed studies

1. Investigation of the Psychosocial functioning of HIV-1 Seropositive adolescents in Kampala, Uganda," by **Dr. Eugene Kinyanda & Dr. Ssegane Musisi.**

**Objective:** This study was undertaken to assess the emotional and behavioral problems of adolescents living with HIV/AIDS and their associated factors at the Mildmay Centre.

**Method:** A cross sectional study design was employed in which pre-tested standardised instruments were administered to 82 consecutively recruited HIV/-seropositive adolescents and their primary care givers (parents/guardians) These instruments comprised of socio-demographic variables, family background, physical illness data, staging of HIV/AIDS diseases severity and specific measures of psychological ill health using the SRQ-25, ICD-10 research diagnostic criteria for depression, anxiety, substance abuse, somatoform disorder, personality/conduct disorder, psychosis, mania or organic brain syndrome. Their social adjustment was measured using the modified self-report measure of social Adjustment (SAS-M)

**Results:** Findings indicated that most (98.8%) clients at Mildmay were residents of Kampala and Wakiso districts. Most (88.8%) of the adolescent respondents were aged below 15 years with a male to female ratio of 1:1:3. There was a high orphanage rate in the study population. The cause of parental death was known. AIDS or presumed AIDS in 68% of the cases. Some adolescents lived with single parents (26.8%), grand parents (28%) or other relatives (43.9%). Their school performance was rated fair to poor in 51% of cases with many missing school often due to frequent illness (86.7%) or to attend clinical reviews (16.7%).

Over 6% had had sexual abuse experience mostly rape by adults in their care or strangers. They suffered severe HIV/AIDS symptomatology with 60.9% being in terminal stages of their illness and they were not on antiretroviral treatment. These adolescents had significant psychological distress (51.2%) and many had a diagnosis of a psychiatric illness; psychosis (30.5%), depression (41.5%), anxiety disorder (58.5%), somatoform disorder (18.3%), dementia (4.9%), seizures (8.5%) and mania (7.2%). Up to 20% had a past suicide attempt and 4.8% had abused substances. Their treatment approaches included hospitalization (40%) and traditional healer (24%). However 36% had had no treatment at all. These adolescents felt very distressed with schoolwork, discrimination and the stigma attached to HIV/AIDS.

**Conclusion:** The study found that HIV/AIDS infection in the adolescents was associated with significant psychological and social dysfunction. The parents/guardians of these adolescents also suffered significant

psychological and social impairments. There were no interventional support programmes for this vulnerable sub group of HIV/AIDS population or their caretakers

2. "Adherence to Infection Control Guidelines: A Study of Knowledge and Practices of Universal Precautions Among Health Care Workers of Wakiso District in Relation to HIV/AIDS" by **Dr. Caroline Nakkazi**.

**Objectives:**

- (i) To assess the knowledge of health care workers about universal precautions of infection control.
- (ii) To study medical practices of health care workers as per universal precautions.
- (iii) To determine availability of supplies used in infection control e.g. soap, jik, decontaminants and sterilizes.
- (iv) To determine the incidence of occupational injuries among health care workers e.g. needle stick/equipment injuries.

**Method:** A cross sectional study with some analytical components to discern significant relationships was carried out among health care settings of Wakiso District. All health care workers (support and medical staff) of Wakiso District, central Uganda were eligible.

Data collection instruments included a semi structured pre-coded interviewer administered questionnaire for quantitative data collection. Qualitative data was collected using key informant interviews and focus group discussion guides. Record reviews were used for availability of supplies and injury records/incidence.

A total of 24 Health Care settings were included in the study. A multistage sampling procedure was employed. The two hospitals that are Kisubi and Entebbe were purposely selected. The rest of the health units were stratified according to the level of care health centre IVs sub hospitals. Departmental selection was purposeful to include maternity clinics, theatre outpatient's mortuary clinics surgical wards and laboratory. (High-risk areas).

**Results:**

A total of 384 participants were interviewed.

- ❖ There was 3.8 times fold of injuries among low cadre HCWS i.e nursing aides and ward cleaners as compared to skilled health care workers.
- ❖ There was also a significant association between proper knowledge of universal precautions and infections control practices with a RR of 3.0 and 95%CI,  $\chi^2 = 19$  and  $P < 0.0001$ . The

knowledge on universal precautions should be 100% but is still low.

**Conclusion:** The infection control practices in this HIV/AIDS era were not satisfactory. There is need to increase the knowledge of HCWs by training and strengthening infection control practices.

3. "Micro-Nutrient intake and levels in HIV/AIDS infected Adults, the case of Vitamin A,E, Zinc and Selenium". By **Mr. Abdelrahman Lubowa –**

**Objective:** The objective of the study is to investigate the prevalence of micronutrient deficiencies among HIV-infected adults in Uganda in other words to determine the dietary intake and status of vitamin A,E,Zinc and selenium among HIV-infected adults in Uganda.

**Method:** Dietary intake was determined by collection of food consumption data using a semi-quantitative food frequency questionnaire validated by the 24-hour food recall. Nutritional status was determined by quantitative assay of vitamins and trace minerals in serum of respondents. Immune status was determined by lymphocyte differentiation. Vitamins and trace mineral content in both food and serum was determined by high performance liquid chromatography and atomic absorption spectrophotometry, respectively. Lymphocyte sub-sets was determined by the flow cytometry.

Food consumption data of each study volunteer was compared with RDAs of NRC (1989) to determine adequacy of dietary intake while serum levels will be compared with reference values given in Linder (1991) to determine status of micronutrients. Proportions of deficient/non deficient volunteers will be computed to determine any associations and prevalence of micronutrient deficiencies in HIV infection.

Results are pending

#### **On-going studies:**

1. "The Use of Changes in Total Lymphocyte Counts to Predict Changes in CD4+ T Lymphocytes among HIV Infected Patients on HAART ".**Dr. Barigye Henry.**

**Objectives:** The objective of the study is to determine if the raise or fall in patients on HAART can be predicted by a corresponding raise or fall in total lymphocyte counts (TLC) and evaluate possibilities of using the changes in TLC to follow up patients on HAART.

**Method:** This is a prospective observational study. The study population includes adult patients who consent to have follow up complete blood

and CD4 + T cell count and viral load will be enrolled. Excluded will be those who cannot afford to pay half the cost. The study site is the Joint Clinical Research Centre. Measurements on changes in TLC and changes in CD4 + T cell counts. Total lymphocyte counts is measured using coulter while CD4 + T cells is measured using flow Cytometer. Enrolled patients get a full physical exam and base line tests i.e. complete count, with total lymphocys counts and lymphocytes as a percentage of white blood cells, CD4 + T cell count, CD4 + cell %, CD8% CD8 absolute counts CD4/CD8 ratio and viral load. Patients will be followed up over one year with evaluations every 3 months.

**1. “A comparative Study of Condom Use Among the Urban and Rural Youth in Gulu District”** by Dr. Jackson Amone.

**Background:** Gulu District has had insecurity for the last 14 years. This led to a lot of internally displaced people settling in camps all over the district. On the other hand, young people are yet a group of individuals who have been affected greatly by HIV/AIDS. Vulnerability to HIV infection is attributed to the fact that an increased number of adolescents initiate sex early.

**Objectives:** The objective of the study was to assess the sexual behaviour, knowledge, attitude and use of condoms among adolescents living in the Internally Displaced People (IDP) camps and urban areas in Gulu District in order to plan for better methods of preventing HIV/AIDS spread.

**Method:** The study was a comparative cross sectional study conducted in Gulu district. Female and male adolescents aged 15 - 19 years who consented or assented to participate in the study had a questionnaire administered.

**Results:** The study found that sexual activity was high among adolescents in camps and urban areas. Table 1 summarises some of the findings.

**Table 1:**

|                    | <b>Camps</b> | <b>Urban</b> |
|--------------------|--------------|--------------|
| Male               | 61%          | 54%          |
| Primary Education  | 84%          | 71%          |
| Ever had sex       | 50%          | 44%          |
| Age at first sex   | 13.6 years   | 14.3 years   |
| History of rape    | 16.3%        | 6.1%         |
| Sex to get a child | 49%          | 14%          |
| Use condoms        | 19.8%        | 45.2%        |

**Conclusion:** Sexual activity was high among youths in Gulu town and IDP camps in Gulu District. There was a high level of knowledge of condom use among adolescents in both areas but use was higher in

urban areas, probably due to better availability. Surprisingly, history of rape was high in camps.

2. **“Prevalence of severe pain in HIV infected patients attending new Mulago, ISS Clinic and TASO** by Dr. Edward Semafumu and Mr. Simon Kasasa .

**Background :** Pain is one of the major causes of morbidity in HIV/AIDS patients attending the AIDS Clinics of New Mulago and TASO Mulago Centre. However, its prevalence and impact on the quality of life of these patients is not known.

**Objectives:** The objectives of the study were;

- (iv) To estimate the prevalence of pain among HIV/AIDS patients attending the AIDS Clinics of Mulago Hospital and TASO Mulago.
- (v) To describe the different types of pain patients present with anatomically and pathophysiologically.
- (vi) To assess the effect of severe pain on quality of life in patients with HIV/AIDS attending the two clinics.

**Method:** A cross sectional study was carried on HIV/AIDS patients of 18 years and above who freely reported pain as one of their presenting complaint.

Between November 2000 – February 2001 a total of 1,200 HIV seropositive patients were screened. Of the 1,200 patients, 256 (21%) freely reported pain as one of their presenting complaints and 206 (97%) of those who presented with pain were recruited in the study. Of the 206 who presented with pain, 115 (58.5%) reported severe pain. Most patients 117 (56.8%) had somatic pain, 49 (23.8%) had visceral pain and 40 (19.4%) had neuropathic pain. The more severe the pain was, the worse was the interference with quality of life, p-value: ,0.0001.

**Results:** The study found out that between November 2000 – February 2001 a total of 1,200 seropositive patients were screened. Of the 1,200 patients, 256 (21%) freely reported pain as one of their presenting complaints and 206 (97%) of those who presented with pain were recruited in the study. Of the 206 who presented with pain, 115 (58.5%) reported severe pain. Most patients 117 (56.8%) had somatic pain, 49 (23.8%) had visceral pain and 40 (19.4%) had neuropathic pain. The majority of patients 94 (45.6%) had WHO clinical stage III of HIV. The more severe the pain was, the worse was the interference with quality of life, p-value: ,0.0001.

**Conclusion:**

- (v) The prevalence of pain was estimated at 21% of all HIV seropositive patients. The prevalence of severe pain among HIV/AIDS patients who presented with pain in ISS Clinic and TASO Mulago Clinic was 58.5%.
- (vi) Somatic pain was the most common form of pain presentation. There was no significant statistical difference between severity of pain and nature of pain.
- (vii) There is severe interference with quality of life in patients who have severe pain with HIV/AIDS with mean rating interference p-value <0.0001.
- (viii) The majority of patients with HIV/AIDS (67%) were not on any pain medication.

### 3. “Factors Influencing Acceptability of HIV Testing in Rural Areas of Uganda.” by Dr. Fred Nuwaha & Dr. Donna Kabatesi

**Background:** Voluntary counselling and testing (VCT) for Human Immunodeficiency virus (HIV) is a potential HIV preventive strategy. However, in Uganda, only a few centres provide VCT services and few people undergo VCT.

**Objective:** To understand the factors influencing VCT with a view of increasing the proportion of people who undertake VCT.

**Methods:** Individual interviews with a cluster random sample of 219 people and four focus group discussions were held in Bushenyi district of south-western Uganda. The interview schedule was based on the Attitudes Social influence self-Efficacy (ASE) Model. Attitudinal beliefs, self-efficacy expectations, and social influences that are probably associated with VCT for HIV were elicited. The proportion of people who had ever undertaken VCT for HIV was also determined.

**Findings:** Thirty eight (17%) of the 219 people interviewed had ever undergone VCT. The factors influencing VCT for HIV were positive consequences of a negative test, negative consequences of a positive test, influences from a sexual partner, cost of VCT, physical accessibility of VCT, awareness, risk of HIV infection, need for linking VCT with care (especially availability of anti-retrovirals) and perceived quality of care of VCT services.

**Conclusions:** Increased mobilisation and access for VCT, reducing costs of VCT, linking of VCT with care, and emphasising the positive consequences of VCT as well as providing high quality VCT services may increase the number of people seeking VCT.

### 4. “Is cancer of the lung associated with HIV 1 infection in Uganda”. Dr. Cecily Banura

**Background:** As the AIDS epidemic evolves, studies have found increased incidence of some tumours. These tumours present in unusual locations, display an aggressive pattern of development and progression and/or remain refractory to standard therapies.

**Objectives:** The objectives of the study were;

- (iii) to establish a hospital-based cancer registry and specimen repository for selected HIV related malignancies in Mulago hospital Complex as a resource for future studies.
- (iv) to assess response, prognostic factors and survival of patients in relation to different treatment modalities.

**Methods:** In this prospective study, adult patients with histologically confirmed Kaposi's sarcoma (KS), Non-Hodgkin's lymphomas (NHL), Burkitt's lymphoma (BL) and cervical cancer (Ca Cx) and who consent to have their blood taken for HIV serology after pre-test counselling and other specimens stored are eligible.

A total of 195 subjects will be recruited and followed-up in the 12 months of the study. A total of 150 patients with KS, 15 patients with NHL, 5 patients with BL and 25 patients with CaCx will be recruited. Data collection commenced February 1, 2001 after obtaining necessary approvals from participating clinical facilities and Institutional Review Boards. Table I below summarizes the status of recruitment by malignancy type in males & females between February – July 2001.

Table 1: Malignancy by Type and in Males & Females

| Malignancy      | Males | Females | Total |
|-----------------|-------|---------|-------|
| KS              | 36    | 21      | 57    |
| NHL             | 5     | 2       | 7     |
| BL              | 0     | 1       | 1     |
| Cervical Cancer | 0     | 15      | 15    |
| Total           | 41    | 39      | 80    |

The on going studies are:

“Predictors of High Risk Human Papilloma (HPV Types 16 and 18: A Population Based Survey in Rural Uganda “ by Dr. Elioda Tumwesigye

**Introduction:** Pap smears which are the cornerstone of cervical cancer prevention have had limited success in poor resource settings. Screening programs are expensive and quality assurance is difficult.

**Objectives:** The objectives of the study are; to evaluate the operational feasibility of HPV testing in primary screening for cervical cancer in resource poor settings and to assess the utility of self-collected samples

for the detection of HPV DNA in outreach settings where a screening speculum exam is not feasible. The study will also evaluate potential HPV vaccine acceptability among young adult women.

**Design:** This study is a cross-sectional study implemented in some rural communities of Bushenyi District.

**Methods:** Cluster sampling will be used to select participants from each village. One female aged between 15 and 49 will be randomly selected from the household and enrolled into the study after obtaining consent. A total of 200 women will be recruited in the study. Each woman will be assisted by a trained midwife to self collect 3 vaginal swabs (one for HPV, another for future PCR testing for STDs and the third for onsite saline testing for trichomoniasis). Onsite standard treatment will be offered to individuals with STDs.

**Progress:** Preliminary work began in September 2000 with community mobilization. The study team conducted a series of one-day seminars with community leaders to further prepare the communities for the study. The research team mapped community areas for research. The next steps are to pre-test and refine tools for data collection.

**“Antiretroviral Drug utilization study: Emerging issues critical to the quality improvement of the drug use process in Uganda.”** By Dr. Enosh Mwesigwa.

**Background:** the Acquired Immunodeficiency Syndrome (AIDS) has now reached pandemic proportions with more than 30 million people affected worldwide. Africa accounts for 67% of those affected. Uganda is one of the many African Countries to experience the HIV epidemic, but is also one of the success stories in AIDS control.

The development of more efficient drugs has led to dramatic improvements in health care. There has been increased use of ARVDs in Uganda. However little is known about the use patterns. Prescribing and dispensing practices in Uganda are far from the norm and the manner in which drugs are used deviates from acceptable standards.

**Objectives:** The objectives of the study are;

- (vi) To contribute towards the overall improvement of the management, delivery and quality of health care in Uganda, with special emphasis on people with HIV/AIDS.
- (vii) To carry out utilization study of ARVDs in eight reference health institutions in Uganda so as to identify the use patterns, their determinants and their implications for policy.
- (viii) To study prescribing patterns, i.e. number of items per consultation, prescribing time, inter/intra-institutional variations and availability of prescribing information.

- (ix) To investigate dispensing practices, i.e. adequacy of instructions to patients, dispensing time and dispenser (qualified/not qualified)
- (x) To establish whether there is adequate patient follow-up and monitoring, i.e CD4+ cell counts and monitoring of adverse effects, resistance and intolerance

**Method:** A hospital based cross-sectional study based in 8 reference health institutions, i.e Mulago National Referral Hospital, St. Francis Hospital Nsambya, Rubaga hospital, Mengo hospital , Joint Clinical research Centre, Mbale regional hospital, Mbarara university Hospital and the Mildmay International Centre. Multiple methods, including a standard WHO/INRUD protocol will be used to collect data.

**Progress:** Closed to subject recruitment, August 2001 , analysis in progress.

In the year 2000/2001, 20 members submitted proposals and 5 were awarded grants. These grants were given to the following:

6. **Dr. Eugene Kinyanda & Dr. Ssegane Musisi** – study title “ Investigation of the Psychosocial functioning of HIV-1 Seropositive adolescents in Kampala, Uganda,” *Supervised by Moses Kamyua.*
7. **Dr. Caroline Nakkazi** – study title “Adherence to Infection Control Guidelines: A Study of Knowledge and Practices of Universal Precautions Among Health Care Workers of Wakiso District in Relation to HIV/AIDS”. *Supervised by Dr. Moses Kamyua.*
8. **Dr. Barigye Henry** – study title “The Use of Changes in Total Lymphocyte Counts to Predict Changes in CD4+ T Lymphocytes among HIV Infected Patients on HAART “. *Supervised by*
9. **Dr. Cecily Banura** – study title “Is cancer of the lung associated with HIV 1 infection in Uganda”. *Supervised by Dr. Harriet Mayanja.*
10. **Mr. Abdelrahman Lubowa** – study title “Micro-Nutrient intake and levels in HIV/AIDS infected Adults, the case of Vitamin A,E, Zinc and Selenium”. *Supervised by Prof. Kakitahi.*

Although some grants were awarded in 2000/2001, implementation of some of the studies did not start until 2002. Of these grants the completed and published studies include;

**1. Investigation of the Psychosocial functioning of HIV-1 Seropositive adolescents in Kampala, Uganda,”** by Dr. Eugene Kinyanda & Dr. Ssegane Musisi.

**Background:** Chronic somatic illness including HIV/AIDS is known to interfere with the normal development process of children and adolescents leading to emotional and behavioural disorders.

**Objective:** This study was undertaken to assess the emotional and behavioural problems of adolescents living with HIV/AIDS and their associated factors at the Mildmay Centre.

**Method:** A cross sectional study design was employed in which pre-tested standardised instruments were administered to 82 consecutively recruited HIV/-seropositive adolescents and their primary care givers (parents/guardians). These instruments comprised of socio-demographic variables, family background, physical illness data, staging of HIV/AIDS diseases severity and specific measures of psychological ill health using the SRQ-25, ICD-10 research diagnostic criteria for depression, anxiety, substance abuse, somatoform disorder, personality/conduct disorder, psychosis, mania or organic brain syndrome. Their social adjustment was measured using the modified self report measure of social Adjustment (SAS-M).

**Results:** Findings indicated that most (98.8%) clients at Mildmay were residents of Kampala and Wakiso districts. Most (88.8%) of the adolescent respondents were aged less than 15 years old with a male to female ratio of 1:3. They had a high orphanage rate of 97.6% and 81.3% had lost their parent(s) when less than 10 years old. The cause of parental death was known AIDS or presumed AIDS in 68% of the cases. Currently they lived single parents (26.8%), grand parents (28%) or other relatives (43.9%). The adolescent school performance was rated fair to poor in 51% of cases with many missing school often due to frequent illness (86.7%) or to attend clinical reviews (16.7%). Over 6% had had sexual abuse experience mostly rape by adults in their care or strangers. They suffered severe HIV/AIDS symptomatology with 60.9% being in terminal stages of their illness (Stages III & IV) and they were not on anti-retroviral treatment. They had significant psychological distress (51.2%) and many had had diagnosed psychiatric illness as psychosis (30.5%), depression (41.5%), anxiety disorder (58.5%), somatoform disorder (18.3%), dementia (4.9%), seizures (8.5%) and mania (7.2%). Up to 20% had had a past suicide attempt and 4.8% had abused substances. Their treatment approaches included hospitalisation traditional healer (24%). However 36% had had no treatment at all. These adolescents felt very distress with schoolwork, discrimination and the stigma attached to HIV/AIDS.

**Conclusion:** The Study found out that HIV/AIDS infection in the adolescents was associated with significant psychological and social dysfunction. The parents/guardians of these adolescents also suffered significant psychological and social impairments. There were no interventional support programmes for this vulnerable sub group of HIV/AIDS population nor their caretakers.

**“Adherence to Infection Control Guidelines: A Study of Knowledge and Practices of Universal Precautions Among Health Care Workers of Wakiso District in Relation to HIV/AIDS”** by Dr. Caroline Nakkazi.

**Background:** HIV/AIDS infection is one of the leading causes of morbidity and mortality in the world today. Transmission can occur occupationally and nosocomially in health care settings. Nosocomially or occupationally acquired HIV is a major worry among health care workers. Although HIV transmission is mainly heterosexual, there is a significant transmission through contact with infected blood and body fluids.

**Objective:** The objectives of the study are;

- (v) To assess the knowledge of health care workers about universal precautions of infection control.
- (vi) To study medical practices of health care workers as per universal precautions.
- (vii) To determine availability of supplies used in infection control e.g. soap, jik, decontaminants and sterilizes.
- (viii) To determine the incidence of occupational injuries among health care workers e.g. needle stick/equipment injuries.

**Method:** The study was a cross sectional study with some analytical components to discern significant relationships. The study was carried out among health care settings of Wakiso District.

Study Population:

The population included all health care workers (support and medical staff) of Wakiso District, central Uganda.

A total of 384 participants were interviewed. This was calculated using a formula for cross-sectional studies. A total of 24 Health Care settings were included in the study criteria for health facility was minimum services included a maternity, outpatients and inpatients department. A multistage sampling procedure was employed. The two hospitals that are Kisubi and Entebbe were purposely selected. The rest of the health units were stratified according to the level of care health centre IVs sub hospitals. Departmental selection was purposeful to include maternity clinics, theatre outpatient's mortuary clinics surgical wards and laboratory. (High-risk areas).

Data collection instruments included a semi structured pre-coded interviewer administered questionnaire for quantitative data collection. Qualitative data was collected using key informant interviews and focus group discussion checklists and records reviews were used for availability supplies and injury records/incidence.

Statistical tests were employed to discern/establish significant relationships according to started objectives and standards cross tabulations of:

1. Relationship of knowledge of HCWs and safe Medical practices.
2. Availability of supplies and adherence to universal precautions of infection control.
3. Presence of guidelines in Health facility and HCWs safe medical practices.

The tests included P-values confidence intervals risk and odds ratios and  $\chi^2$  square. The significance level was was  $A= 0.05\%$  at 95% confidence interval.

### **Results:**

- ❖ There was 3.8 times fold of injuries among low cadre HCWS i.e nursing aides and ward cleaners as compared to skilled health care workers.
- ❖ There was also a significant association between proper knowledge of universal precautions and infections control practices with a RR of 3.0 and 95%CI,  $\chi^2 = 19$  and  $P < 0.0001$ . The knowledge on universal precautions should be 100% but is still low.

**Conclusion:** The infection control practices in this HIV/AIDS era were not satisfactory. There is need to increase the knowledge of HCWs by training and strengthening the practices by support supervision and availing the infection control. Policy makers and managers should enforce infection control practices in the health care settings of Wakiso District .

Injury control, recording of injuries and HIV post exposure prophylaxis should be started at 2 hospitals and 7 Health centre IVS

### **“Micro-Nutrient intake and levels in HIV/AIDS infected Adults, the case of Vitamin A,E, Zinc and Selenium”.** By Mr. Abdelrahman Lubowa .

**Introduction:** Micronutrient deficiencies are common in HIV infection and AIDS and are important co-factors in immune deterioration and diseases and diseases progression. Vitamin A, zinc and selenium are especially critical because of their roles in immune related and anti-oxidant enzymes. Studies have documented decreasing levels of these nutrients through the course of HIV infection, which exhibit strong secondary infections, and higher risk of mortality. Adequate intake and optimal status of Vitamin A,E, Zinc and selenium could therefore be important in the management of HIV/AIDS. However, in Uganda, Virtually no investigations have been done on the dietary intake and nutritional status of these nutrients among HIV infected people. Yet estimates indicate that a large proportion of the Ugandan population is at risk of low intake of micronutrients.

**Objective:** The objective of the study is to investigate the prevalence of micronutrient deficiencies among HIV-infected adults in Uganda in other words to determine the dietary intake and status of vitamin A,E,Zinc and selenium among HIV-infected adults in Uganda.

**Method:** Dietary intake will be determined by collection of food consumption data using a semi-quantitative food frequency questionnaire validated by the 24-hour food recall. Nutritional status will be determined by quantitative assay of vitamins and trace minerals in serum of respondents. Immune status will be determined by lymphocyte differentiation. Vitamins and trace mineral content in both food and serum will be determined by high performance liquid chromatography and atomic absorption spectrophotometry, respectively. Lymphocyte sub-sets will be determined by the flow cytometry.

Food consumption data of each study volunteer will be compared with RDAs of NRC (1989) to determine adequacy of dietary intake while serum levels will be compared with reference values given in Linder (1991) to determine status of micronutrients. Proportions of deficient/non deficient volunteers will be computed to determine any associations and prevalence of micronutrient deficiencies in HIV infection. ANOVA will be used to determine significant seropositives and seronegatives. Multiple regressions will analyse relationships between: dietary intake and micronutrient status, and micronutrient status and immune status.

**Status of study:**

1. Has managed to finish analyzing the food survey data and determining the nutrient intake for respondents. Spread sheets available on nutrient intake results. Also included are the serum zinc results. This means that he is remaining with analysis of serum vitamin A & E to complete the project.
2. However, even now has not been able to complete analysis of serum vitamin A & E. This is because there are still technical problems with the analytical procedure. The vitamin A standard has completely failed. It suffered degradation at each time he tried to calibrate the HPLC machine. He thus decided to first complete the food analysis and comprehension of zinc results. At the same time I re-ordered for vitamin A standard.

**“The Use of Changes in Total Lymphocyte Counts to Predict Changes in CD4+ T Lymphocytes among HIV Infected Patients on HAART ”.Dr. Barigye Henry.**

**Introduction:** HIV/AIDS is a major cause of death in Ugandan adults. The main target of the virus is a subset of thymus derived (T) lymphocytes, which are known as helper/inducer cells. These carry on their surface a glycoprotein molecule called CD4 bearing lymphocytes account at least in part for the immunosuppressive effect of virus. Indeed the hallmark of disease progression is the fall in the number of helper CD4 lymphocytes and later the development of clinical symptoms. The basis of highly active antiretroviral therapy (HAART) is to suppress viral replication and enable CD4 + T cells regenerate and offer the necessary immunology support. The use of HAART has shown to reduce the frequency of opportunistic infections and improve the quality of life, in spite of the success of triple combination therapies (HAART), there is increasing evidence that treatment fails in many if not all. Treatment failure may be due to development of resistance to HAART or inadequate efficacy of the medication due to non-adherence. This makes regular monitoring of HAART very important.

However monitoring in resource poor countries like Uganda is hampered by the expensive nature of tests. In addition CD4 + T cell count determination requires flow cytometry, which is out of reach for the majority of health services in this country. There is therefore need to identify inexpensive and simple tests to monitor response to HAART in HIV/AIDS patients.

**Objectives:** The objective of the study is to determine if the raise or fall in patients on HAART can be predicted by a corresponding raise or fall in total lymphocyte counts (TLC) and evaluate possibilities of using the changes in TLC to follow up patients on HAART.

**Method:** This was a prospective observational study with descriptive and analytical components. The study population will include adult patients who consent to have follow up complete blood and CD4 + T cell count and viral load will be enrolled. Excluded will be those who cannot afford to pay half the cost. The study site is the joint Clinical Research Centre. Measurements on changes in TLC and changes in CD4 + T cell counts. Total lymphocyte counts will be measured using coulter while CD4 + T cells will be measured using flow Cytometer. Enrolled patients will have a full physical exam and base line tests i.e. complete count, with total lymphocytes counts and lymphocytes as a percentage of white blood cells, CD4 + T cell count, CD4 + cell %, CD8% CD8 absolute counts CD4/CD8 ratio and viral load. Patients will be followed up over one year with evaluations every 3 months.

**Status:** the study is on going and below is the plan.

July 2002-Todate - Review of patients: 200 patients reviewed about 4 times each and a questionnaire/ data record form filled in for each of them.

**Implementation plan:**

|                                  | Jun-Nov 2002 | Dec 2002-<br>Mar 2003 | Apr-Jun 2003 | Jul. 2003 |
|----------------------------------|--------------|-----------------------|--------------|-----------|
| Preparation of proposal document | *            |                       |              |           |
| Recruitment of participants      | *            |                       |              |           |
| Clinical evaluations             | *            | *                     |              |           |
| Cleaning of questionnaires       | *            | *                     |              |           |
| Data entry                       |              | *                     |              |           |
| Data analysis                    |              |                       | *            |           |
| Report writing                   |              |                       | *            |           |
| Report presentation              |              |                       |              | *         |

**“Is cancer of the lung associated with HIV 1 infection in Uganda”**. by Dr. Cecily Banura.

**IV. RESOURCE CENTRE**

The USHS has a resource centre at the secretariat. Resources available include reference books, current scientific journals, including medical literature search facilities and Internet services.

USHS subscribes to various journals like;

- The lancet
- The American Journal of epidemiology
- The journal of infectious diseases
- The AIDS international Society Journal
- The Paediatric Infectious Disease Journal.
- The Paediatric and Adolescents Medicine Journal
- Health services Research Journal

Members also access free medical journals on the internet like:

- ◆ <http://www.freemedicaljournals.com> gives new web release schedules for more than 700 basic research and clinical titles
- ◆ <http://bmj.com/cgi/content/full/321/7273/1420/a>; British Medical Journal, BMJ 2000;321:1420 for comments:
- ◆ <http://216.150.20.30/science.gif>: Science 2001;293?1407
- ◆ <http://cepm.mpl.ird.fr>: New Journal of Infection, Genetics & Evolution
- ◆ <http://www.mymorningjournal.com>
- ◆ <http://igm.nlm.nih.gov/>: AIDSLINE (National Library of Medicine) Over 186,000 abstracts of journal articles, books and audiovisuals on AIDS and related topics.
- ◆ <http://sciencedirect.com>: for full articles

USHS plans to subscribe to more journals to have a wider scope of health information like the Africa Journal for Health Sciences.

### **Newsletter**

The Society produces a bi-annual newsletter. The purpose of the newsletter is to disseminate information on its activities, inform members of funding opportunities and to announce upcoming scientific meetings that may be of interest to members.

### **Brochure**

The society produced 1000 brochures and were distributed through out the year.

### **Website**

USHS maintains a website on [www.iph.ac.ug/ushs](http://www.iph.ac.ug/ushs) that had been installed to publicise upcoming events that may be of interest to members and potential members.

USHS website is hosted by iph.ac.ug. The best option is to consider hosting USHS site in Europe or USA and to be updated from USHS computers when need arises. Then USHS will have a domain name like [www.ushs.org](http://www.ushs.org)

## **V. SCIENTIFIC MEETINGS**

### **a) Annual Scientific Meeting**

Every year the Society holds a scientific meeting. The Society held its 3rd Annual Scientific meeting on July 25- 26, 2002 at Hotel Africana. 130 participants including scientists and non-scientists attended. The

meeting was designed to provide a forum for scientific discussions of completed and on-going research studies.

This year was very special. Invited speakers were drawn from major HIV/AIDS research collaboration projects including, Rakai, Medical Research Council(MRC) and Case Western Reserve University (CWRU) collaboration.

The meeting was officially opened by Prof. Gilbert Bukenya, the Minister in Charge of the Presidency and formerly the Dean of Makerere Medical School.

Invited speakers made the following presentations during plenary sessions followed by a brief discussion:

**Prof. James Whitworth**, presented major findings of the MRC project over the last 10 years. In his presentation he noted that, it is generally believed that there is a frighteningly fast-developing epidemic of HIV in Africa. However in Uganda there have been downward trends in HIV prevalence in rural and urban populations since the mid-1990s.

The reductions have been attributed to successful behavioral change campaigns.

He informed participants that quoted rates come from urban antenatal clinics, but wondered whether these are typical of the whole of Uganda.

He highlighted that Prevalence is the rate of existing cases of a condition in a population. And Incidence the rate of new cases of a condition occurring in a certain period of time.

In surveys of HIV, prevalence is affected by incidence of new cases, deaths, migration and survey coverage. Incidence is the most reliable measure of epidemic trends for HIV, but while there are several studies of prevalence in Uganda, there is little information about incidence.

He informed participants that they have been studying the whole adult population of 15 neighbouring villages in a rural part of Masaka District since 1989, Annual census of the population, followed by medical and serological surveys and rates and trends in incidence and prevalence of HIV in a population-based cohort over a 10-year period.

Evidence of behaviour change in MRC Masaka rural cohort was seen in various ways like older age at first sex for boys (17.5-18.2 years), older age at first marriage for girls (18.5-19.5 years), halving of unmarried teenager pregnancy rate and trebling of the ever use of condoms

In MoH Kampala and Jinja it was seen in; delay in onset of sexual activity (by 2 years), 9% decrease in casual sex in male youths, 30-40% increase in ever use of condoms

In ANC Fort Portal there was a decreased risk of infection associated with secondary school education and observed trends fit computer model assuming behaviour change.

In his closing remarks he noted that

- There is consistent evidence from multiple and independent sources of falling HIV prevalence throughout Uganda.
- The trends at antenatal clinics are consistent with information from other sources.
- I have presented the first evidence of a significant fall in HIV-1 incidence in a rural general adult population in Uganda.
- The fall in incidence is seen in all population groups: males, females, young and old.
- In the worst affected ANC in urban centres the peak prevalence reached 30% and has since fallen to 8.7%.
- In rural areas the peak prevalence reached about 10% and has declined in 4.2%.

- The national estimated average peaked at about 20% and has declined to 6.1%.
- These reductions in incidence and prevalence are most consistent with risk-lowering behaviour change in the population.
- However, it is not possible to be certain what part of Uganda's response to the epidemic is responsible for the fall.
- It is possible that rates were already falling when the national AIDS programme was established.

And that what distinguishes the Ugandan response from that elsewhere in Africa has been

- strong political commitment at the highest level
- public education raising awareness, reducing stigma with active community involvement
- openness to strong partnerships with many non-state actors

These results give hope to AIDS control programmes in other African countries that the AIDS epidemic can be controlled using similar approaches.

**Dr. Pontiano Kaleebu** of Uganda Virus Institute/Medical Research Centre (UVRI/MRC) presented an update on HIV vaccines.

The first HIV vaccine trial was in 1987, there were approximately 80 HIV-1 phase II trials and I.

He pointed out the challenges in development of HIV-1 vaccine which are; understanding the correlates of protection, lack of animal model, viral diversity and relevance of subtypes, induction of virus neutralising antibodies, broad CTL and mucosal immunity and development of standard assays for immunogenicity studies.

He also pointed out the AIDS vaccine trials and GCP –Uganda of which were the IAVI vaccines, Mercks Adenovirus-based vaccine, DNA subtype A and MVA.

He gave an update on vaccine trials in Africa and said the completed ones were ALVAC-vCP205 (Aventis Pasteur)- subtype B-Uganda (NIH), Gag DNA-subtype A-Kenya (IAVI)- ongoing and Gag MVA-subtype A-Kenya (IAVI).

The planned HIV vaccine trials are

- DNA-MVA: Uganda-subtype A (IAVI)
- ALVAC-A:Uganda- (Aventis Pasteur/Walter Reed/NIH)
- VEE-subtype C: South Africa – (Alpha vax/NIH/IAVI/SAVI)
- DNA/MVA A/G: Cote d'voire- (NIAD/Emory/CDC)
- Lipoprotein: Cote D'voire – (French ANRS)
- Nigeria – A/G, Salmonella – (HIV)

- Uganda- A Salmonella (IHV/IAVI)

ALVAC-HIV: vCP 205: (JCRC,UVRI,CWRU,NIH)

- HIVNET 007:
  - Phase 1 study of the safety and immunogenicity of vCP 205 in HIV uninfected Adult Volunteers in Uganda
- Canarypox vector
- Gaga p55 and protease p15 (LAI), env gp120 (MN), env gp41 (LAI)
- Vaccination at month 0,1,3 and 6

#### Study Design

It was a double-blinded, randomized placebo controlled phase 1 40 seronegative, low risk volunteers of which 20 subjects vCP205, 10 ALVAC-RG rabies vaccine and 10 placebo. Vaccines or placebo were given 4 times over 6 mos. The primary endpoints were safety, neutralising antibodies and CTL..

In his conclusion he said,

- we have some more information that cellular immune responses might be important in protection.
- Easier assays to measure response are now available, but still need better ones.
- Id diversity is important multiple gene constructs are being made and use of conserved HIV regions.
- There is some disappointing data for vaccines
- Better adjuvants and better induction of IgA and mucosal responses
- Unfortunately still few products (30 ready for phase II and III (2) trials
- There are more trials planned in Africa and more promising products to Phase III.

**Prof. Nelson Sewankambo**, presented major findings of Rakai projects over the last 10 years.

In his introduction he said the dynamics of spread of HIV-1 in Rakai are as follows:

| HIV Seroplast | Trading Centres | Intermediate trading villages | Rural villages |
|---------------|-----------------|-------------------------------|----------------|
| Men           | 26%             | 22%                           | 8%             |
| Women         | 47%             | 29%                           | 9%             |

And that the prevalence in women is high in women between the age of 25 –29 (33%) while in men is highest at the age of 30-34 (29%).

**Dr. Chris Whalen**, Director of AITRP at CWRU also Technical Advisor USHS, presented major findings of CWRU/MU collaboration over the last 10 years.

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Some USHS members gave 10 minutes oral abstract presentations followed by 5 minutes discussions. The presenters included:

**Dr. Henry Barigye** - The use of changes in total lymphocyte to predict changes in CD4+ T Lymphocyte among HIV infected patients on HAART.

In his presentation he said, AIDS is the leading cause of death among adults. HAART reduces the incidence of death and improves the quality of life among patients with HIV/AIDS. HAART is however not a cure and fails in most if not all cases. Treatment failure causes a raise in viral load, decline in CD4 counts and development of opportunistic infections. Virological and immunological failure often asymptomatic needs to be detected early to avoid deterioration in immune function and encourage cross-resistance.

Currently CD4 and viral load determination are recommended to detect immunological and virological failure. These tests are however very expensive and rely on equipment that are unavailable and unaffordable to most health facilities in resource poor countries. Monitoring of HAART for efficacy is a major impediment to scaling up the use of anti retroviral therapy.

There is need for cheaper and inexpensive markers to monitor the efficacy of HAART.

This study is therefore designed to determine if changes in simple haematological markers (especially Total lymphocyte counts) can be used as surrogate markers for changes in CD4 counts that occur among patients on HAART by following up 200 patients on HAART over a period of one year while measuring their CD4 counts haematological parameters and clinical features.

He informed participants that Implementation of the protocol had delayed because of the delay in ethical approval by the AIDS sub committee.

The protocol has been discussed by all those who will participate in its execution.

A pilot study has been completed.

Recruitment of patients has started and completion is expected by June 2003.

**Dr. Cecily Banura** - Epidemiology of cervical cancer in Africa.

In her presentation she said that cervix is the second most common cancer in women worldwide. Globally, there were 471,000 annual cases and 233,000 annual deaths in the year 2000.

1.4 million prevalent cancers

Almost 80% of cases in less developed countries, where it accounts for 15% of cancer in women.

The world incidence rates are observed in Sub-Saharan Africa.

It has been observed cervical incidence rates and diseases burden are likely to be underestimated due to poorly developed health services, under registration of diagnosed cases, particularly advanced cases, inaccessibility to information on cancer cases diagnosed and managed by the native medical systems and lack of reliable population-based registries in many regions and rural areas.

Risk factors for cervical cancer are early sexual intercourse, multiple sex partners, multiparity, long term oral contraceptive use, low-socio economic status, micro-nutrient deficiency, diet deficient in vegetables and fruits, infection with chlamydia *Trochamatis* and tobacco smoking.

Invasive cervical cancer is preceded by cervical intraepithelial neoplasia (CIN). A high-risk of CIN is associated with persistent infection with oncogenic HPV. The RR of CIN 2-3 in those with persistent infection varies between 8-26 in follow-up studies.

In Africa there are more than 80% cases present in advanced stages but Cervical cancer control in Africa is limited by various factors like, limited diagnostic and treatment facilities, limited trained human resources, no reliable survival data available and there is no organized screening .

Dr. Banura further highlighted that cervical cancer prevention in Africa has been not feasible because cervical cytology programmes are not feasible.

In her conclusion she recommended that detection and treatment of high-grade CIN by simple methods should receive attention.

**Dr. Eugene Kinyanda** - Emotional and behavioural problems of adolescents living with HIV/AIDS as seen at the Mildmay centre in Kampala, Uganda.

**Background:** Chronic somatic illness including HIV/AIDS is known to interfere with the normal development process of children and adolescents leading to emotional and behavioural disorders.

**Objective:** This study was undertaken to assess the emotional and behavioural problems of adolescents living with HIV/AIDS and their associated factors at the Mildmay Centre.

**Method:** A cross sectional descriptive study design was employed in which pre-tested standardised instruments were administered to 82 consecutively recruited HIV/-seropositive adolescents and their primary care givers (parents/guardians) These instruments comprised of socio-demographic variables, family background, physical illness data, staging of HIV/AIDS diseases severity and specific measures of psychological ill health using the SRQ-25, ICD-10 research diagnostic criteria for depression, anxiety, substance abuse, somatoform disorder, personality/conduct disorder, psychosis, mania or organic brain syndrome. Their social adjustment was measured using the modified self report measure of social Adjustment (SAS-M)

**Results:** findings indicated that most (98.8%) clients at Mildmay were residents of Kampala and Wakiso districts. Most (88.8%) of the adolescent respondents were aged less than 15 years old with a male to female ratio of 1:1.3. They had a high orphanage rate of 97.6% and 81.3% had lost their parent(s) when less than 10 years old. The cause of parental death was known AIDS or presumed AIDS in 68% of the cases. Currently they lived single parents (26.8%), grand parents (28%) or other relatives (43.9%). The adolescents school performance was rated fair to poor in 51% of cases with many missing school often due to frequent illness (86.7%) or to attend clinical reviews (16.7%). Over 6% had had sexual abuse experience mostly rape by adults in their care or strangers. They suffered severe HIV/AIDS symptomatology with 60.9% being in terminal stages of their illness (Stages III & IV) and they were not on anti-retroviral treatment. They had significant psychological distress (51.2%) and many had had diagnosed psychiatric illness as psychosis (30.5%), depression (41.5%), anxiety disorder (58.5%), somatoform disorder (18.3%), dementia (4.9%), seizures (8.5%) and mania (7.2%). Up to 20% had had a past suicide attempt and 4.8% had abused substances. Their treatment approaches included hospitalisation traditional healer (24%). However 36% had had no treatment at all. These adolescents felt very distress with schoolwork, discrimination and the stigma attached to HIV/AIDS.

**Conclusion:** The Study found out that HIV/AIDS infection in the adolescents was associated with significant psychological and social dysfunction. The parents/guardians of these adolescents also suffered significant psychological and social impairments. There were no

interventional support programmes for this vulnerable sub group of HIV/AIDS population nor their caretakers

**Ms. Mariam Walusimbi** - Knowledge and attitudes of nurses towards nursing care of patients with HIV/AIDS in Mulago Hospital.

A cross-sectional study was done at Mulago Hospital in the year 2001 to assess the knowledge and attitude of nurses in Mulago Hospital towards the nursing care of patients with HIV/AIDS. Mulago hospital has 1280 employees of whom 757 (65%) are nurses.

**Methods:** Questionnaires were posted to 500 nurses. The questionnaire addressed demographic data, nursing knowledge and experience with HIV/AIDS and a knowledge scale was used to measure factual knowledge about HIV/AIDS.

The questionnaire also assessed the attitudes of respondents including, fear of contagion, social stigma associated with HIV/AIDS, fatal outcome of disease, direct care and education/counseling. Likert scale was used to measure attitudes.

**Results:** Four hundred seventy seven of 500 respondents returned the questionnaires. The majority (92.%) were females. One hundred seventy five were registered nurses or midwives, 149 were enrolled nurses or midwives. Three hundred twenty five respondents worked full time and had spent in the service on average 15 years. 425 (89%) had at some point during the service cared for HIV/AIDS patients.

**HIV/AIDS Knowledge:** On a scale of 0-40, the mean knowledge score was 21.0 (range 7-31). Males and respondents with a University degree were more knowledgeable than other respondents. The source of information for the majority of respondents were radio (69.4%), seminars and workshops (64.4%). Areas of inadequate knowledge included anatomy of HIV virus, immunology and prevention strategies.

**Attitude:** A positive correlation was found between knowledge and attitude scores. This means that the higher the knowledge score the more favourable the attitude to nursing HIV/AIDS patients. On the other hand, a negative correlation was found between knowledge and fear of contagion. This means that knowledgeable respondents were less fearful of HIV/AIDS contagion.

**Conclusion:** There was inadequate knowledge among nurses and midwives working in Mulago hospital. The more knowledgeable the respondents were, the less fearful of nursing HIV/AIDS patients they were.

**Dr. Fred Nakwagala** - Ethics of HIV clinical research in developing countries.

In his introduction he said developing nations have borne the brunt of the HIV epidemic. Urgent research is needed to help contain this scourge. The affected nations are not able own their own to fund such research. A good proportion of research has been made possible through research collaborations with the developed nations.

As an example the US has contributed over 1.6b \$ by early 2002. Because of the dire need and scarcity of resources, many have advocated for pragmatic approaches. (Jack Killen et al). Such pragmatism calls for ethical double standards and the abandonment of the Uniform Care Requirement.

He highlighted that the basic ethical issues are based on various questions like; (i) Does standard treatment mean what is locally available or what is standard in rich nations? (ii) Is it ethical to make adjustments in ethical requirements because of unavailability of resources in developing nations? (iii) Is it ethical to do studies whose findings are of use primarily to developed nations and Is it ethical to do studies in developing nations that would be excluded in developed nations on ethical grounds?

The ethical implications of research involving human subjects are identical in principle wherever the work is undertaken; they relate to respect for the dignity of each individual subject as well as to respect for communities and they possess a basic human dignity which calls for utmost reverence.

He further said that local standard of care gives ethical justification for many studies that would otherwise be unethical in developed nations, such as use of placebo and natural history studies. But the question is whether it is ethical to recruit from the 45 million US citizens who lack medical insurance into such studies.

He noted that research participants have been exploited in various ways like; misallocation of research funds, e.g. huge administrative costs, recruiting subjects from poor background e.g. those attending public care facilities, studies that never benefit the local communities and poor legal systems, e.g. poor compensation laws.

He further noted that an external sponsoring agency should submit the research protocol to ethical and scientific review according to the standards of the country of the sponsoring agency, and the ethical standards applied should be no less exacting than they would be in the case of research carried out in that country."

He recommended that; (i) Ethics compromises not tenable as long as the basic human dignity of the people in developing nations is disrespected. (ii) Only cost-effective, scientifically and ethically sound healthcare strategies. (iii) The dire needs of the indigent should not be used fortuitously to justify otherwise unethical stuff. (iv) we need to revisit the old norms of the noble profession of medicine.

**Dr. Achillies Katamba-** The effect of dual TB/HIV AIDS on compliance with community based directly observed treatment (DOTs) in a rural community in Uganda.

In his presentation he said that tuberculosis (TB) is a burden World wide. 2 billion people have latent M. TB, 8 million per year develop TB and 2 million die every year

In 1993 WHO declared TB a Global emergency and subsequently introduced the DOT strategy

Direct observed therapy, (DOT) is the practice where a health worker or designated worker in the community observes the tuberculosis patient swallow all tablets.

Although sound in principle, DOT may not be applicable because of the HIV epidemic.

In countries where both TB and HIV are endemic, health care professionals and laymen alike recognize that TB and HIV are linked. A DOT strategy based in community may lead to stigmatization of TB patients because of known association with HIV. Some patients may avoid DOT in order to avoid the stigmatization of the treatment.

TB is also a stigmatized disease Therefore, it is important to understand attitudes of TB patients towards DOT strategy

Knowledge gained from the study will guide the implementation of the DOT strategy in the face of a high HIV prevalence.

The objective of the study is to assess whether TB patients are concerned about it's potential stigmatizing effects due to the association of TB and HIV/AIDS.

**METHODS:** A cross-sectional study in Kiboga and Mubende districts, Uganda . The study population Population is Tuberculosis patients, DOT - Kiboga SAT – Mubende . An interviewer administered structured questionnaire developed using the Likert scaling method was used to record information from the study subjects. The Outcome measure is patients' perceptions of the stigma associated with a tuberculosis diagnosis.

**Results:** Out of 104 respondents on DOT, 97.1%(101) liked the idea of community volunteer observe them swallow their medicine. 2.9%(3) didn't like the idea of a community volunteer observe them swallow their TB medicine.

The reason for liking the idea of having a community volunteer was that medicine is available and they are reminded to take their medicine and the reason for not liking the idea of a community volunteer was that some patients did not like people to know that they have TB.

Two patients preferred to do Hospital based DOT.

He recommended that Since tuberculosis patients did not find the DOT strategy stigmatizing, wide implementation of the DOT strategy by TB control programs should be feasible in rural communities and that health education should be emphasized in DOT programs

**Mr. Eriya Murana:** - An assessment of plans & options taken by clients who receive voluntary counselling and testing at the AIDS Information Centre.

By the end of 1980s, Uganda was considered the epi-centre of HIV/AIDS in Africa. HIV prevalence has however declined since the mid 1990s especially among the youth. This decline has been attributed to behaviour change like abstinence, condom use and being faithful to one partner.

Counselling and testing helps individuals to make decisions appropriate to their situation.

The AIS Information Centre has been offering VCT since 1990 and assisting clients to make appropriate decisions. Over the years, AIC conducted over 600,000 tests creating an invaluable data set.

He highlighted that the main objectives of the above options were to assess association between the HIV test result and the options/plans taken by clients who receive HIV/AIDS Voluntary Counselling and Testing at the AIDS Information Centre in Uganda. And secondly to describe VCT clients that were more likely to take on behaviour change options after having an HIV/AIDS test.

Methods: Routine data was collected from VCT clients on social-demographic characteristics, sexual behaviour, HIV serological status, and the options taken after a test.

32,336 VCT clients were evaluated from the 4 AIC branches of Kampala, Mbale, Jinja and Mbarara over the period April 2001 to December 2001.

Data on clients' social demographic characteristics, sexual behaviour, and HIV serological status to the post test options/plans taken by VCT clients.

He concluded by saying that HIV test result and post test counselling influence client's decisions on the options to take for both positive and negative clients.

HIV positive clients were more likely to opt for abstinence, disclosure and improving on nutrition while the HIV negative clients opted for faithfulness (one partner), retesting and testing partner(s).

He recommended that there is need for a thorough client-centred post test counselling to help clients make informed decisions on options to take.

Behaviour change programmes should be integrated in the VCT service provision.

In order to help clients to take options, VCT counsellors need to put gender, age and post test counselling.

**Dr. Carol Anyango**, a student of epidemiology at CWRU presented her proposal entitled Assessment of TB relapse in Kampala, Uganda.

### **Background**

Tuberculosis is an important public health problem globally. WHO estimates that there are about 8.4 million new cases of TB and 2.9 million TB related deaths each year, globally. WHO also estimates that there are about 68,000 new cases of TB each year with about 24,000 deaths annually due to TB. 33,000 new cases of TB are attributable to HIV infection

Patients infected with TB/HIV have twofold higher post treatment relapse rates

In 2000, Fitzgerald et al showed that TB relapse is strongly associated with a history of symptomatic HIV disease

- Hawken (1993) – Patients treated with Thiacetazone had a 34 fold increase of relapse after successful initial TB treatment

Pulido (1997) - Patients treated for less than 9 months had a relapse risk 10.9 times higher than those treated for at least 9 to 12 months

Tuberculosis is a serious health problem in Uganda especially with its association with HIV. The research done on tuberculosis relapse has been inconclusive. Predictors of tuberculosis relapse are largely unknown in Uganda. Rates of reinfection and rates of reactivation using DNA fingerprinting are unknown in Uganda

**OBJECTIVES: The objectives of the study are;**

- (i) To determine the rate of relapse in TB cases who have completed antituberculous therapy
- (ii) To assess the predictors of relapse in TB cases who have completed therapy, in particular, whether HIV serostatus affects risk for relapse
- (iii) To estimate the rate of reinfection versus the rate of reactivation in TB relapse
- (iv) To assess the predictors of reinfection versus reactivation in people with tuberculosis relapse.

**Study Design** A retrospective cohort study incorporating a nested case control study

The subjects will be a cohort of patients who have been or are undergoing treatment at the UG-CWRU Research Collaboration. There is readily available information on patient characteristics.

| Study              | Year         | Number of Participants | Number of HIV         |
|--------------------|--------------|------------------------|-----------------------|
| TB-EPI             | 1993-1997    | 230                    | Positive Participants |
| Ethambutol         | 1994-1996    | 136                    | 230 (100%)            |
| M. Vaccae          | 1995-1997    | 120                    | 124 (90%)             |
| Household Contacts | 1995-1999    | 378                    | 0 (0%)                |
| Microbiology Pilot | 1995-Present | 21                     | 147 (39%)             |
| Prednisolone       | 1998-Present | 190                    | 190 (100%)            |
| IL-2               | 1998-Present | 110                    | 0 (0%)                |

The instruments applied are chart reviews, computerized databases and restriction fragment length polymorphism.

**PRELIMINARY DATA**

- Under normal treatment conditions a relapse rate of 5% is expected

- 1185 patients have been followed up in the studies carried out
- 691 are HIV positive and 494 are HIV negative
- 60 TB relapse cases are expected
- 138 retreatment cases of which 108 have been reviewed.

**b) Support to members to Barcelona for the 4<sup>th</sup> International AIDS conference.**

Through USHS, the Fogarty Training Grant at CWRU supported members to Barcelona, Spain, for the 4<sup>th</sup> International AIDS Conference held in July 2002.

The members who participated presented the following oral and poster presentations;

1. **Dr. Francis Bajunirwe** presented “Nevirapine and Zidovudine use in the prevention of prenatal transmission of HIV-1 in Uganda”.

Maternal-to-infant (MIT) transmission of HIV is the main mode of acquisition of HIV for children. The single dose of nevirapine and short course of Zidovudine (AZT) are administered in some major hospitals in Kampala, Uganda to prevent MIT of HIV. Non-clade B isolates of HIV-1 are predominant in the developing world and may have intrinsic resistance to Antiretroviral (ARV) drugs. It is important to understand the perinatal transmission rates of HIV and associated risk factors for transmission rates of HIV and associated risk factors for transmission. It is also important to determine the prevalence of ARV drug resistance in both untreated and ARV-treated mothers before treatment becomes available country wide.

A cross sectional study was used to compare prenatal transmission rates of HIV in two sets of mothers. ARV-treated mothers and ARV-untreated mothers. Risk factors associated with transmission of HIV are also assessed.

109 treated and 90 naïve mother-infant pairs were recruited. HIV transmission rates were similar in the Nevirapine (10/61) and AZT (8/48) groups (16.4% vs 16.7% respectively but higher in the naïve group (43/90 48%,  $p=0.0001$ ). Overall, ARV therapy offers a protective effect against MIT of HIV (OR 0.32 95% CI 0.16,0.88) but

mothers in Stage 1 of disease were more likely to benefit from this intervention than mothers in stage 2 or 3.

Screening of HIV infected pregnant women should be done to identify a symptomatic mothers who are likely to benefit from therapy. In this observational study, though ARV reduces MIT of HIV, it does not eliminate the transmission completely. Intrinsic drug resistance to ARV, intrauterine transmission or breast feeding may in part account for lack of efficacy.

**Mr. Erasmus Otolok** presented “The Evaluation of AIDS Community Initiatives in HIV/AIDS prevention and care of people living with AIDS”.

**Background:** AIDS Community Initiatives (ACI) were established in Jinja district in 1993 as response towards AIDS pandemic. However, these had not been evaluated since their formation. Therefore, the study set out to assess the progress of implementation of AIDS Community Initiatives (ACI).

**Methods:** A descriptive cross-sectional study was conducted between January and April 2000. Interviews were held with 69/85 ACI program implementers, 384 community members using a semi-structured questionnaire; Focus Group Discussion (FGD) with Persons with AIDS (PWA) and ACI program records were reviewed. Key Informant interviews were held with district administrators. Respondents were randomly selected and data analyzed using EPIInfo version 6.04 computer package.

**Results:** Interviews were held with 384 community members. Six eight percent of the community members had been reached through community AIDS education meetings and home care visits. ACI program had contributed to increased knowledge on HIV transmission, preventive behaviors and risk perception ( $p < 0.01$ ). Condom use with non-regular partners increased significantly ( $p < 0.05$ ). 69% were sticking to their faithful partner compared to 47% before the project. 18% had taken voluntary HIV test compared to hardly any before the project.

**Conclusions:** the ACI program had a positive impact on community knowledge on HIV transmission, preventive behaviors and risk perception on HIV transmission. Although large proportion of the community members had been reached, women and youth remain a challenge. Voluntary HIV testing remains low in this community.

**Dr. Achillies Katamba** presented “The effect of dual TB/HIVAIDS on compliance with community based directly observed treatment in a rural community in Uganda.

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**Dr. Jackson Amone** presented "Sexual behaviour and condom use among internally displaced and urban adolescents in Gulu district. Gulu District has had a consistent wars for nearly 17 years. This led to the establishment of Internally Displaced Persons' Camps. The camps are overcrowded. Adolescents have limited access to Reproductive Health information and services. Many of the adolescents initiates sex at an early age and are vulnerable to HIV infection.

**Method:** A comparative descriptive cross-sectional study was conducted between November, 2000 and March, 2001. Interviews were held with adolescents both in the Internally Displaced Persons' Camps and Urban area using pre-coded questionnaire. Focus group discussions were conducted in the four selected areas. Two-stage sampling was used. Respondents were randomly selected and data analysed using EPIINFO version 6.04 computer package.

**Results:** A total of 376 adolescents aged 15-19 years were interviewed. A significant number of adolescents in the camps were found to be out of school ( $p < 0.0001$ ). Nearly a half of the internally displaced adolescents (49.5%) had had sexual intercourse as compared to 43.6% of the urban adolescents. Adolescents in the camps who had ever married was significantly high ( $p < 0.00001$ ). There was a higher rate of rape in the camps. A significant number of internally displaced adolescents had sex in the last six months ( $p < 0.009$ ) with more risk of getting pregnant ( $p < 0.0006$ ). High level of knowledge of condom both in the camps and the urban area but significantly low use.

**Conclusion:** Internally displaced adolescents begin sexual activity at an early age. They have high knowledge of condom but low use than their urban counterparts. This exposes them to sexually transmitted diseases including HIV/AIDS and unwanted pregnancies. Thus, many school dropouts.

**Dr. Caroline Nakkazi**, presented "Adherence to infection control guidelines: a study of knowledge and practices of universal precautions among health care workers of Wakiso district in relation to HIV/AIDS.

**Background:** HIV/AIDS infection is one of the leading causes of morbidity and mortality in the world today. Transmission can occur occupationally and nosocomially in health care settings. Nosocomially

or occupationally acquired HIV is a major worry among health care workers. Although HIV transmission is mainly heterosexual, there is a significant transmission through contact with infected blood and body fluids.

**Objective:** The objectives of the study are to;

- (ix) To assess the knowledge of health care workers about universal precautions of infection control.
- (x) To study medical practices of health care workers as per universal precautions.
- (xi) To determine availability of supplies used in infection control e.g. soap, jik, decontaminants and sterilizes.
- (xii) To determine the incidence of occupational injuries among health care workers e.g. needle stick/equipment injuries.

**Method:** The study was a cross sectional study with some analytical components to discern significant relationships. The study was carried out among health care settings of Wakiso District.

Study Population:

The population included all health care workers (support and medical staff) of Wakiso District, central Uganda.

A total of 384 participants were interviewed. This was calculated using a formula for cross-sectional studies. A total of 24 Health Care settings were included in the study criteria for health facility was minimum services included a maternity, outpatients and inpatients department. A multistage sampling procedure was employed. The two hospitals that are Kisubi and Entebbe were purposely selected. The rest of the health units were stratified according to the level of care health centre IVs sub hospitals. Departmental selection was purposeful to include maternity clinics, theatre outpatient's mortuary clinics surgical wards and laboratory. (High-risk areas).

Data collection instruments included a semi structured pre-coded interviewer administered questionnaire for quantitative data collection. Qualitative data was collected using key informant interviews and focus group discussion checklists and records reviews were used for availability supplies and injury records/incidence.

Statistical tests were employed to discern/establish significant relationships according to stated objectives and standards cross tabulations of:

4. Relationship of knowledge of HCWs and safe Medical practices.
5. Availability of supplies and adherence to universal precautions of infection control.

6. Presence of guidelines in Health facility and HCWs safe medical practices.

The tests included P-values confidence intervals risk and odds ratios and  $\chi^2$  square. The significance level was  $\alpha = 0.05$  at 95% confidence interval.

**Results:**

- ❖ There was 3.8 times fold of injuries among low cadre HCWS i.e nursing aides and ward cleaners as compared to skilled health care workers.
- ❖ There was also a significant association between proper knowledge of universal precautions and infections control practices with a RR of 3.0 and 95%CI,  $\chi^2 = 19$  and  $P < 0.0001$ . The knowledge on universal precautions should be 100% but is still low.

**Conclusion:** The infection control practices in this HIV/AIDS era were not satisfactory. There is need to increase the knowledge of HCWs by training and strengthening the practices by support supervision and availing the infection control. Policy makers and managers should enforce infection control practices in the health care settings of Wakiso District .

Injury control, recording of injuries and HIV post exposure prophylaxis should be started at 2 hospitals and 7 Health centre IVS

**Dr. Edward Semafumu** presented “Some aspects of pain among patients attending the AIDS clinics of Mulago hospital and The AIDS Support Organisation (TASO) Mulago”.

**Background:** Pain is thought to be a major cause of morbidity in HIV/AIDS patients attending the AIDS clinics of Mulago Hospital and TASO. The prevalence, types and effect of this pain on quality of life is not known. The objectives of the study were to estimate the prevalence of pain among HIV patients attending the two clinics, to describe the different types of pain patients present with, to assess the severity of this pain and its effect on quality of life.

**Methods:** Descriptive cross sectional study was conducted on HIV/AIDS patients of 18 years and above who freely reported pain as one of their presenting complaint. Consenting patients had their HIV serostatus done and a thorough clinical examination. A brief pain inventory was used as the instrument to measure and quantify pain status and areas of interference with daily activities of life. Main measures were demographic characteristics, HIV serostatus, severity of pain, types and effect of pain on quality of life.

**Results:** Between Nov 2000 to Feb 2001, we screened 1,200 HIV seropositive patients, 256 [21%] freely reported pain as one of their

presenting complaint and 206[97%] of those who reported pain were recruited in the study. Of the 206 patients who had pain ,115[58.5%] had severe forms of pain. The more severe the pain was, the worse was the interference with the quality of life, p-value0.0001.The most common form of pain was somatic pain at 56.8% of all pains.

### **Conclusion**

1. Pain is a common presentation in HIV/AIDS patients who attend in the two clinics as estimated in our study at 21%.
2. Somatic pain was the most common form of pain presentation
3. There is severe interference with quality of life in patients who have severe pain with HIV/AIDS with significant mean rate interference with a p value of 0.0001.

## **VI. WORKSHOPS**

### **a) Research Methodology Workshop**

The objective of the Research Methodology workshop was to assist young and upcoming health researchers who had concept papers that they wished to develop into full proposals.

The research methodology workshop was held on June 13 –15, 2002. The participants were students drawn from the Faculty of Medicine on masters programme in Public Health, Psychiatry and doctors from upcountry hospitals. Attendance was by invitation. 30 people were invited. During the workshop participants were introduced to the different types of research methods and proposal format, identifying and prioritising problems for research, analysis and statement of the problem, study justification, conceptual framework, formulation of goals and objectives, literature review, study design, sampling procedures, data collection tools and methods, data management and analysis, work plan and budget, limitations and research ethics.

Participants liked the workshop and they recommended that the Society should organise short self-sponsored courses to further refresh and give advanced skills in research methods and proposal writing to upcoming and young researchers. This could enhance their skills in grant sourcing. Participants also expressed keen interest in attending the scientific writing skills workshop, which would help in providing skills to publish scientific papers.

### **b) HIV/AIDS Treatment Workshops**

Anti-HIV drugs such as Nevarapine and AZT are becoming more affordable and accessible for HIV-infected individuals in Uganda. However treatment with these drugs can also introduce a whole host

of issues including monitoring, treatment interruptions and drug resistance.

It was on this basis that USHS with the support of The Ugandan- Case Western Reserve University Research Collaboration, the Case Western Reserve University Centre for AIDS research and the Fogarty International Aids Training Grant – a CWRU organised a one-day workshop. The workshop was held on **9<sup>th</sup> February 2002** at Hotel Africana, Kampala.

Attendance was by invitation. 200 people were invited from various backgrounds, 239 attended. The workshop was graced by Prof. Rwomushana who represented Dr. David Kihumuro Apuuli, Director General, Uganda AIDS Commission. In his message called upon policy makers and other donor agencies to sponsor similar workshops and organisations .

Several Ugandan and American HIV/AIDS experts addressed many issues on prevention, management of HIV/AIDS and opportunistic infections and identifying the existing gaps that may form a basis for future research. During the plenary talks the issues addressed were;

#### STD-HIV interactions by, **Dr. Bob Salata, CWRU**

In his presentation, *Dr. Robert Salata* reviewed the parallel epidemiology of HIV infection and other STDs globally. He highlighted the evidence supporting the synergistic relationship between HIV infection and classic STDs (gonorrhoea, syphilis, lympho granuhoma venerium etc). He presented on-going Uganda-CWRU collaboration studies related to HIV infection and STDs in Uganda. Dr. Salata who pointed out that the co-prevalence, of HIV and classic STDs is high and control of STDs could reduce the incidence of HIV. Treatment of STDs reduces HIV shedding and consequently transmission to the sexual partner. The main factors that affect sexual transmission of HIV are viral load of donor subject, presence of AIDS primary infection, cervical ectopy and lack of circumcision in males.

Other possible factors influencing sexual transmission of HIV are use of Intra Uterine Devices ( IUDs), hormonal contraceptives and menstruation.

The mechanisms by which hormonal contraceptives may facilitate HIV transmission is through increased cervical ectopy, increased chlamydial cervical infection, immunologic changes associated with exogenous steroid use, thinning of vaginal epithelium and irregular bleeding with injected progestin use. Sex hormones may also have a direct effect on the virus. Currently, a study to investigate the effect on hormonal contraceptives on HIV transmission is on going in Uganda.

Updates on opportunistic infections and their management by, **Dr. Michael Lederman**, CWRU.

In his introduction he presented the natural history of the HIV disease, the cumulative risk for OIs in the United States and opportunistic complications and CD4 Cell Counts.

He said that opportunistic Infections have become less frequent after HAART.

He further informed participants that Pneumococcal vaccine might have failed because of poor antibody response (4.1 – 7.7ug/mL), induction of HIV replication, deletion of specific B cell clones, or Induction of the “wrong” antibody.

Primary Prophylaxis can generally be withdrawn when CD4 cells stably increase above thresholds for 3-6 months.

That the common Opportunistic Infections in Ugandan Persons with HIV infection are Tuberculosis, Candidiasis, Cryptococcosis, Herpes Simplex Infection and Bacterial Infections. Uncommon Ois in Uganda are Mycobacterium avium complex, Pneumocystis carinii Pneumonia and Cytomegalovirus.

These OI's unusual because of infrequency of the organisms, Competition with other pathogens, Earlier co-morbidity and mortality, Complexities of diagnoses and Pre-existent immunity.

The clinical or laboratory indices that can be used to predict OI risk in Uganda are Lymphocyte count, CD4 cell count and HIV RNA levels.

In predicting OIs, the spectrum of OI complications need to be defined.

Opportunistic Infections in HIV Disease are Predictable by CD4 cell count, screening studies. Some are preventable in the absence of HAART. Most are preventable after HAART-induced immune restoration. Many are treatable even in the presence of AIDS-related immune deficiency

He concluded by an open discussion on Opportunistic Infections in Uganda; What is the natural hx of HIV in Uganda? exceptional? Role of Th2? What are the Ois most incident in HIV+ Ugandans? At what stage of disease (CD4) do they occur? Can OI be prevented? Is “wasting”

related to unidentified OI? And Insights from the rarity of: MAC PCP, CMV?

Current strategies to prevent maternal to child HIV transmission by Prof. **Francis Miro**, Dept of OBS &GYN, Makerere Medical School.

Maternal To Child Transmission (MTCT) is the most significant source of HIV infection in children below the age of 15 years. An estimated 5.1 million children worldwide have been infected with HIV since the beginning of the pandemic, most through MTCT. It is estimated that in the year 2000, 1.8 million HIV infected women become pregnant, giving birth to an estimated 600,000 HIV infected children of whom 90% were in sub-Saharan Africa.

Infection occurs during pregnancy in 15-20%, during labour in 10-20% and through breast feeding in 5-10% of babies.

### Studies on prevention of MTCT

Several studies have been conducted on prevention of MTCT (PMTCT). In the ACTG 076 study AZT was given to pregnant women with HIV infection starting at 14-24 weeks gestation, and to babies during the first 6 weeks of life. The babies were not breast-fed. Results showed a 66.8% reduction in HIV infection.

The Centres for Disease Control and Prevention (CDC) - Thai AZT study showed a 50% reduction in HIV transmission, with AZT at 36 weeks gestation to delivery.

The PETRA AZT/3TC four arm study showed a 50% reduction in HIV transmission in the intervention arm starting drugs at 36 weeks gestation, and a 37% reduction with intra partum treatment up to for 1 week, post partum in a breast feeding population.

In the HIV NET 012 study, a single dose of Nevirapine given to the mother in labour, and the baby at birth in a breast feeding population led to 50% reduction in transmission.

| Study (Year)    | Drug    | Regimen Dosage of ARV                            | Breast Fed | Outcome (Percentage reduction in HIV infection) | Cost (US \$) |
|-----------------|---------|--|------------|---|--------------|
| ACTG 076 (1994) | AZT     | Mother 14-24 weeks gestation, Baby first 6 weeks | No         | 66.8%   | 1000         |
| CDC-Thai (1998) | AZT     | Mother AZT 36 weeks to delivery                  | No         | 50%   | 1000         |
| PETRA (1999)    | AZT/3TC | AZT/3TC (a)Mother 36 weeks                       | Yes        | 50%   | 50-150       |

|                   |            |   |     |     |        |
|-------------------|------------|---|-----|-----|--------|
| PETRA (1999)      | AZT/3TC    | (b)Mother Intrapartum - 1 week Post Partum        | Yes | 37% | 50-150 |
| HIVnet 012 (1999) | Nevirapine | Mother NVP in labour, baby at birth (Single Dose) | Yes | 50% | 4      |

He further presented the main challenges to widespread implementation of PMTCT in Uganda are; inadequate infrastructure in antenatal clinics (ANCs), limited access to voluntary counselling and Testing (VCT) in most ANCs, limited trained personnel to provide VCT services, mothers' refusal for VCT (uptake is between 60-75%) and high cost of implementing a national program.

The way forward is to increase access to PMTCT three approaches can be considered; 1.Targeted Program, 2. Combined Program and 3. Universal Program.

Targeted Program is the "Gold Standard" primary approach which would require that; all women offered VCT, Anti Retroviral Therapy (ARVs) only to HIV positive women and Infant feeding counselling according to economic status.

Combined Program require to start with targeted approach as above and that women of unknown status (women who did not get tested, women who declined testing and those who did not get results also given Nevirapine.

Universal Program would require that; all women receive basic information about HIV, risk of MTCT, risk/benefit of ARVs, ARVs would be offered to all women, however women would have a right to refuse and In the Universal program no VCT done.

**Cissy Kityo;** Antiretroviral Therapy Treatment Strategies And Monitoring In Uganda And The Jcrc

Antiretroviral Therapy (ART) in Uganda started in 1992 at The Joint Clinical Research Centre (JCRC) as a research study to determine the lowest effective dose of Zidovudine ( AZT). Until then, wealthy Ugandans travelled abroad to obtain ARVs and laboratory testing for monitoring therapy. JCRC continued to be the only centre providing ARVs in an organized manner until Uganda was selected to be one of four countries in the developing world to pilot a Drug Access Initiative (DAI) for ARVs with support from UNAIDS in 1998. The DAI accredited various centres within Kampala to provide ARVs. Since 2001, ART is

being integrated as part of the national program for comprehensive HIV/AIDS care and support. Currently ART initiatives are being moved to the peripheral districts of Uganda.

### **Trends in HIV therapy**

The number of patients on ARVs in Uganda is small but increasing. It is estimated that only 8,000 – 10,000 HIV/AIDS patients are on ARVs in the country. JCRC and the Ministry Of Health are committed to increasing access to ARV therapy especially in up-country areas. More HIV counselling and testing centres with basic monitoring facilities will be required to achieve this, but this will not be a hindrance to improving ARV access across the country.

### **Centres currently distributing ARVs**

JCRC has a major ARV centre at Mengo, Kampala with satellite clinics in Mbale and Kabale hospitals. The centre also supports other ARV clinics within Kampala, Mbarara and Masaka with generic ARVs as well as laboratory tests (CD4, Viral load). There are over 10 private facilities within Kampala that have been accredited to provide ARVs (Nsambya hospital, Mildmay, Bank of Uganda Clinic, Case Clinic, Joda clinic, Busingye Medical Centre among others). Other centres include Arua (working with MSF) and Gulu district hospitals.

### **Status of HIV therapy to date**

As the cost of ARVs goes down with the introduction of generics, the number of patients is rapidly increasing. ARVs are now affordable within the salary scales of the better-paid civil servants. In addition, an increasing number of companies and employers are also paying for their staff.

### **HAART regimes**

The cheapest drugs regime available at JCRC is a generic drug combination “Triomune” containing D4T (Stavudine), 3TC (Lamivudine) and Nevirapine at equivalent of US \$30 per month. The cost of other drugs (equivalent of US dollars) is: Stavudine (d4T) at US \$7, Lamivudine 3TC (generic) -US \$14, Nevirapine (generic) - US \$25, AZT/3TC (generic) - US \$35, Efavirenz \_Merck) - US \$56, Kaletra (Abbott)-US \$67, Combivir— (GSK) -US \$86 and Trizivir (GSK) - US \$278 for one months supply.

### **The challenges for JCRC in expanding ARV access are:**

1. The capacity to monitor response and side effects of patients on ARVs. Currently, physicians use clinical monitoring to determine both response and side effects to ARVs. JCRC is exploring cheaper ways to perform the monitoring tests. For instance, CD4 count is currently at an equivalent of US \$ 14 using generic monoclonal antibodies.

2. Find cheaper laboratory tests for monitoring

On average, an equivalent of US \$ 125 including full blood count (CBC) -US \$5, T cell count (CD4)-US \$30, Viral Load-US \$80 and renal and liver function tests at US \$10.

3. limited trained personnel to monitor prescribed ARV therapy

4. Limited financial resources to support services

The challenge for patients remains the high cost of ARVs, even with significant reduction in cost.

HIV prevention strategies including microbicides by **Dr. James Whitworth**, Head, Medical Research Council, Entebbe, Uganda. Behavior change is important because transmission is due to sexual behavior. Evidence of falls in prevalence attributed to behavior change.

Behavior change can be manifested in delaying onset of sex; increase condom use, decrease number of partners.

Voluntary counseling and testing has been expanded for example in rural Rakai and Masaka: 10% come for VCT if office based. 50%+ if home based. STI treatment is probably important in expanding epidemic with high rates of STIs and little behavior change. In Mwanza (Tanzania) there is a 40% reduction in HIV incidence with STI syndromes management, in Rakai there has been no reduction in HIV incidence with mass STI treatment and Masaka, no reduction in HIV incidence with STI syndromes management.

The STIs that are important are Syphilis: OR=3, genital ulcer, HSV-2 (genital herpes): OR=5, genital ulcer, Trichomonas: OR=2, vaginal discharge, Bacterial vaginosis: OR=2, vaginal discharge, Syphilis and Trichomonas can be easily treated. BV is not well understood and is hard to treat. While HSV2 causes 50% of genital ulcers. No treatment in syndromic management.

Participants recommended that such workshops should be held regularly with an aim of updating people especially health workers with the latest information on ARVs.

Another workshop was held on **16<sup>th</sup> March 2002** at Hotel Africana. The focus still was on the latest information on the management of HIV/AIDS including anti-retroviral therapies and management of opportunistic infections.

This was an opportunity for health workers who had missed the workshop that was held 9<sup>th</sup> February to be updated with information on prevention, management of HIV/AIDS and opportunistic infections and to identify existing gaps that may form a basis for future research.

This workshop was sponsored by The Ugandan- Case Western Reserve University Research Collaboration and the Fogarty International Aids Training Grant at CWRU.

The guest speaker was Robert Charles Kalayjian, Managing Director, Associate Professor of Medicine and Director, Division on Infectious Diseases, Metro Health Medical Centre, Cleveland, Ohio. 60 people were invited, 96 attended.

The major issues discussed were on pathogenesis and treatment of HIV, Toxicity of and resistance to Antiretroviral and prophylaxis and management of opportunistic infections in HIV.

The discussions were so interactive. Participants recommended that such workshops should be held regularly and also in rural areas and that information on ARVs (i.e. availability plus costs of drugs) should be disseminated to patients and health care workers in the various health care Centres.

## **VII. JOURNAL CLUBS/SCIENTIFIC LECTURES**

The Society organized and held 2 journal clubs and one scientific lecture. The goal of the Journal clubs and Scientific Lectures is to provide a forum for members to discuss topical issues, learn more about the research process and to provide a forum to establish networks. The Society is also publicized at these meetings.

**a)** To address the increasing resistance of malaria parasites to drugs, the Ministry of Health introduced a policy on first line treatment i.e. chloroquine in combination with sulphadoxine/pyrimethamine (fansidar). In line with that policy, a homopack including 2 drugs to improve compliance to treatment of malaria under the age of 5 was introduced. At a journal club held on October 15, 2001, the topic discussed was “ Malaria 1<sup>st</sup> line treatment: chloroquine, fansidar or both. The presentation generated a very lively discussion and it was attended by 60 participants.

**b)** Voluntary counselling and Testing (VCT) is an important HIV prevention strategy. VCT is an entry point to care including ARV therapy, prophylaxis e.g. tuberculosis and for future decision-making. At a journal club held on August 15, 2002, a paper by Sweet et al. entitled “Cost effectiveness of voluntary HIV-1 counselling and testing in

reducing sexual transmission of HIV-1 in Kenya and Tanzania" was discussed. A total of 38 participated in the discussions.

**c)** Pneumonia is one of the commonest complication in HIV/AIDS. In a scientific lecture held on 5th September 2002, the guest speaker gave an update of collaborative studies on pneumonia between the Department of Medicine, Makerere University and the Institute of Tropical Medicine, Nagasaki University while discussing a paper entitled "Defective Serum Opsonic activity against pneumococci in HIV infected persons". The guest speaker presented some possible mechanisms of defective immune response among HIV infected patients with bacterial pneumonia seen at Mulago Hospital. 42 participants attended the lecture.

## **VIII. LINKAGES**

### **a) Sigma Xi**

Sigma Xi, The scientific Research Society is a non-profit membership Society of approximately 75,000 scientists and engineers who are invited from the whole world. Some of the members are Nobel Laureates elected to the Society because of their research achievements or potential.

USHS was introduced to Sigma Xi by Prof. Fred Robbins a professor at CWRU and Nobel Laureate of 1955.

USHS wrote to Sigma Xi wishing to be affiliated to its research Society. Subsequently, Sigma Xi invited USHS to participate in its annual general meeting and forum.

The Chairperson USHS represented USHS at annual meeting and Sigma Xi forum from November 6 – 12, 2001.

The Sigma Xi forum is an annual event that precedes the annual general meeting. The forum discusses critical issues at the intersection of science and society. During this forum the theme was "Science, the Arts and Humanities, Connections and Collisions."

During the forum, the chairperson made a presentation on Research in Uganda.

At the same forum, an international partners workshop was held. The objectives of the workshop were to;

1. describe benefits of Sigma Xi chapters and members
2. describe potential mechanisms international partners can be affiliated to Sigma Xi
3. explain to international guests the Packard initiative

4. identify potential projects that could be funded with US \$ 2,500 seed money from the Packard initiatives.

The Packard initiative is a new program at Sigma Xi aimed at promoting international science-networking opportunities with a focus on scientists in developing countries.

The countries that participated in this workshop included: Mexico, Argentina, India, Malaysia, South Korea, Uganda and Nigeria. During this workshop, international partners were given a "chapter ToolKit". The Toolkit gives success stories of different Sigma Xi chapters, available resources for international groups wishing to start Chapters. The chairperson's interviews was published in Sigma Xi's International newsletter which can be found on website:  
<http://www.sigmaxi.org/programs/international/newsletter.shtml>

## **b) Science Fair**

During the International partner workshop, participants discussed projects which could be implemented with the seed money of US \$ 2,500. Uganda proposed to use the funds to promote scientific thinking among primary and secondary schools.

USHS in conjunction with Bushenyi Medical Centre (BMC) conducted a one day competitive Scientific fair for secondary and primary schools in Bushenyi district, South Western Uganda.

Bushenyi Medical Centre (BMC) is one of the health units in Bushenyi district. It runs 5 health units in 4 of the 5 counties of the district and operates a health-prepayment scheme with the largest enrolment in the country. In 1998 BMC initiated the School Health Made Easy Scheme, a health pre-payment programme under which enrolled students and teachers receive comprehensive health promotion and disease preventive and curative health packages. There are now 24 schools mainly secondary schools enrolled in the scheme.

The objective of the fair was to encourage up-coming scientists and promote thinking about science and technology among the primary and secondary school pupils and students.

The fair was held on 27 July 2002 at Mothers union Katungu, Bushenyi District, South Western Uganda. Eighteen out of the twenty invited schools participated. Approximately 200 pupils and students exhibited science and technology projects and experiments.

Sigma Xi, The Scientific Research Society in USA sponsored the fair and AITRP at CWRU provided logistical support.

The Minister of Education Dr. Khidu Makubuya officiated at the science fair. In attendance were the Minister of State for Industry and Technology, Dr. Richard Nduhura, district officials, civil and religious leaders. Also in attendance was Dr. Chris Whalen, the Technical Advisor of USHS, some of USHS Executive Board members like Dr. Cecily Banura, Dr. Moses Kamyra, Hon. Dr. Elioda Tumwesigye, Dr. Fred Nuwaha and USHS members; Dr. Achilles Katamba, Mr. Tom Tenya, Dr. Francis Bajunirwe and Dr. Steven Asimwe.

Pupils and students exhibited projects in biology, physics, chemistry, agriculture, health, food science, home economics, technical drawing and communication technology. The judges were selected by the head and science teachers according to their status in the community. The criteria for scoring exhibitors included creativity, originality, presentation, appropriateness, applicability based on the level of the student.

Cash prizes were given to the students and pupils who exhibited the best projects/experiments. Each participating school received a certificate of attendance and a laboratory equipment.

The science fair was a resounding success. There was a lot of enthusiasm from the pupils and students, parents, head and science teachers, and district leaders.

The district leadership requested that USHS makes the fair an annual event.

**c)** The Society has continuously sought for formal linkages with institutions and organisations like The Makerere University Institute of Public Health (MU-IPH).

USHS networks with the Network Of Ugandan Researchers and Research Users (NURRU). NURRU has through out the year sent publications like newsletters, Annual reports, workshop proceedings and abstracts of studies completed to USHS secretariat.

## **IX. PUBLICITY**

Through out the year the Society has increasingly got known by potential members through its activities like journal clubs, annual scientific meetings, scientific lectures, publications like the newsletter and brochure, workshops and linkages. However the Society did not carry out radio and T.V programmes as planned. The other limitation has been as a result of the website which is not yet uploaded.

## **X. FUNDRAISING ACTIVITIES**

The primary source of funding for USHS activities is AIDS International Training and Research Programme (AITRP) at Case Western Reserve University (CWRU). AITRP is committed to provide funds for developmental grants. However, only a few grants at a time can be funded. For this reason, USHS needs to diversify its funding source and aim at gradually becoming self-sufficient so that it can provide a resource for additional developmental grants.

The secondary source of funding is contribution from membership fees.

USHS has continued to seek both in-country and international assistance from developmental individuals, donor agencies and institutions to further the Society's goals.

USHS has a standing committee on resource mobilisation and management that organises in-country fund raising activities.

During the year the Society laid strategies in raising funds from other sources like;

- (i) USHS organised 2 workshops on management of HIV/AIDS and opportunistic infections and participants paid fees.
- (ii) USHS provided consultancy services on "assessing health prepayment schemes in Uganda, sponsored by WHO, Ministry of Health and DISH II project.
- (iii) Charging overhead (indirect) costs on non AITRP and non USHS funded grants handled by USHS secretariat.
- (iv) renting out equipment like the LCD projector, the laptop and the overhead projector which are in use and rented to members. The LCD projector is rented at a cost U.shs. 25,000, the laptop at 20,000 and the overhead projector at 15,000 per day.
- (v) donations from members and international organisations. USHS received U. Shs. 200,000 from RENE Pharmacy and US \$ 2500 from The Scientific Research Society Sigma Xi, to conduct a science fair during the year.

### **SECRETARIAT**

The secretariat is housed at the Makerere University Institute of Public Health (MU IPH), 3<sup>rd</sup> floor room 318. The office is fully furnished with a computer set, email, internet services and library.

To carry out its activities smoothly the Society acquired more equipment like LCD projector and a laptop, however there is need for more equipment like a desktop photocopier and desktop computer.

**XII. Challenges:**

- Limited resources for researchers
- Inadequate basic infrastructure

**XIII. CONCLUSION AND WAY FORWARD**